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ROYAL COMMISSION OF INQUIRY INTO CERTAIN
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND
RELATED MATTERS.

Hearing held
8th floor
180 Dundas Street West
Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

P.S.A. Lamek, Q.C.

E.A. Cronk

Thomas Millar

Rowe: X
Lucina (cont'd)
Manning
The Justice
Jackman

Commissioner

Counsel

Associate Counsel

Administrator

Transcript of evidence
for

August 25, 1983

VOLUME 24

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ROYAL COMMISSION OF INQUIRY INTO CERTAIN
DEATHS AT THE HOSPITAL FOR SICK CHILDREN
AND RELATED MATTERS.

Hearing held on the 8th Floor,
180 Dundas Street West, Toronto,
Ontario, on Thursday the 25th
day of August, 1983.

- - - - -

THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner
THOMAS MILLAR - Administrator
MURRAY R. ELLIOT - Registrar

- - - - -

APPEARANCES:

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	Children
E. MCINTYRE	Counsel for the Registered
	Nurses' Association of Ontario
	and 35 Registered Nurses at
	The Hospital for Sick Children

(Cont'd)



APPEARANCES: (Continued)

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Nurse

G.R. STRATHY Counsel for Phyllis Trayner -
Nurse

B. JACKMAN Counsel for Mrs. M. Christie -
R.N.A.

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Inwood, Mr. & Mrs. Turner, Mr.
& Mrs. Lutes and Mr. & Mrs.
Murphy (parents of deceased
children)

W.W. TOBIAS Counsel for Mr. & Mrs. Hines,
(parents of deceased child
Jordan Hines)

VOLUME 24

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/DM/ak

1
2 ---Upon commencing at 10:00 a.m.

3 MR. LAMEK: Mr. Commissioner,
4 before my friend commences. The Hospital over the course
5 of the two week recess provided me with replace-
6 ment diagrams for three of the children, and I think
7 corrections had to be made in them. Copies of these
8 have been distributed to counsel. I ask please that
9 they perhaps be substituted for the originally filed
10 one. They are first Belanger, who is Exhibit 90 in
11 the diagram. Thomas who was Exhibit 100. Gionas
12 who was Exhibit 120.

13 THE COMMISSIONER: What we will
14 do is we will substitute them, but if at any time
15 anyone finds that there is something in the original
16 one that has to be preserved we won't throw it away,
17 we will keep it, and then we will be able to put it
18 in as well.

19 MR. LAMEK: Good.

20 THE COMMISSIONER: So will you do
21 that now with Exhibits 90, 100 and 120.

22 MR. STRATHY: Were those distributed
23 some time earlier?

24 MR. LAMEK: Yes. Thank you,
25 Mr. Commissioner.

THE COMMISSIONER: Yes, Mr. Percival.



DR. RICHARD DESMOND ROWE, Resumed

CROSS-EXAMINATION BY MR. PERCIVAL: (Continued)

Q. Dr. Rowe, you indicated to me yesterday that you would be good enough to check the medical records relating to Estrella, Pacsai, Miller and Cook, to determine whether or not at the time the terminal events involving these babies occurred, whether there was an IV line in place, or should have been in place.

A. Yes, sir.

Q. Have you had an opportunity to do that, sir?

A. Yes, I have.

Q. Can you give me the answer to that?

A. The answer to that is all four had an intravenous line in place.

Q. Thank you. One of the comments that you made on two occasions, and I can give you the reference, Mr. Commissioner, Volume 12 at page 2024; and then Volume 20 at pages 3676-3680. I want to talk about the matter of deaths that occur at night, Dr. Rowe.

In your testimony you have indicated that:



1

2

"We thought one should expect a
considerable proportion of deaths
to occur at night."

3

4

5

Do you remember giving that evidence?

6

A. I remember.

7

8

Q. Right. I think that you
gave in your evidence also, and perhaps you can
refresh our collection in this regard, that one of
the problems that may occur at night is that there
is less personnel, and similarly the fact that day-
light is not available to consider the pallor of
the baby. Did I hear your evidence, in other words,
to see the colour of the baby?

10

11

12

13

14

A. Yes, that is, the most
important issue is the density of staff.

15

16

Q. So the first is more important
than the second?

17

18

A. Yes.

19

20

Q. But do I take it that if
the density of staff is important, if a particular
baby is under what is called constant nursing care
the density of staff is really irrelevant.

21

22

A. If a baby is under constant
nursing care, yes.

23

24

25

Q. And you are aware that some



1
2 of these 36 babies, that at the time of the terminal
3 events they were under what is called constant nursing
4 care?

5 A. Yes. I am not sure whether
6 it was night or day that is involved.

7 Q. Particularly with the last
8 one, Baby Justin Cook, that was a baby that was under
9 constant nursing care at the time the terminal events
10 occurred?

11 A. I am not sure, but I am
12 prepared to accept that.

13 Q. Well, I understand that to
14 be the case. Now, you have indicated you had read
15 some documentation that this would occur and it
16 was filed, Exhibit 130 you recall, Mr. Commissioner,
17 and it was from the General of Pediatrics, do you
18 recall that being filed earlier in your testimony,
19 Dr. Rowe?

20 A. This is a paper in regard
21 to low birth weight infants?

22 Q. No, the one involving, it is
23 from McMaster.

24 A. Yes.

25 Q. That is Exhibit 130. That
is dated August of 1979. When did you first read that?



1

2

A. Oh, just quite recently.

3

Q. So do I take it that while

4

the paper was out in August of 1979, it was not

5

something that certainly you had read prior to the

6

time of the police investigation?

7

A. No.

8

Q. And I put it to you that

9

you did not suggest to the police when they initially

10

became involved in this matter in March of 1980,

11

that it was usual for deaths to occur between 12:00

midnight and 6:00 a.m.?

12

A. No, but I believe that I gave

13

testimony to the police that indicated that death

14

could occur at night more often.

15

Q. So your recollection is that

16

you suggested to the police in the early stages of

17

the investigation that deaths would likely occur

more often after midnight?

18

A. I think that in my deposition

19

with the police, I don't know what stage that was.

20

Q. I am talking about the very

21

early stages before charges were laid, I am talking

22

about the critical four - five day period prior to

March 25th.

23

A. I don't recall what I may

24

25



1
2 have said to them then.

3 Q. By this point in time you
4 were also cognizant of statistical analysis formed
5 by Dr. Anne Gilmour-Bryson, are you not, that has
6 been filed in these proceedings?

7 A. Recently I have been, yes.

8 Q. Recently?

9 A. Yes.

10 Q. And do you agree with me
11 that while that may be true what you have indicated,
12 that they more likely occur at night, during this
13 epidemic period there was a decided increase in
14 frequency of deaths?

15 A. Yes.

16 Q. During that time period?

17 A. Yes.

18 Q. Rather dramatic if one looks
19 at the Exhibit 35, and you have seen those, Doctor?

20 A. Yes.

21 Q. May I deal with another
22 matter. You have alluded to the New England Study,
23 I believe it is Exhibit 126, and it was, the New
24 England Study characterizing mortality and predictions
25 for babies which apparently was published in February
of 1980?



1

2

A. Yes, I have that.

3

Q. Is that correct?

4

A. Yes.

5

Q. And I would like to ask you

6

this, Doctor. When did you first become aware of

7

this New England Study?

8

A. Oh, I have been aware of that

9

study for many years, since it started.

10

Q. Well, this particular document

11

that has been filed was published in February of 1980.

12

A. Yes.

13

Q. That was just before this

14

epidemic period. Do you recall whether you had an
opportunity to read that during the epidemic period

15

for the purposes of any comparison?

16

A. Oh, no. I think I probably

17

read it at the time that it came out in February 1980.

18

Q. Well, you have told the

19

Commission that you had a number of morbidity and
mortality meetings that you convened, I think there

20

were two in September of 1980 and one in January of

21

1981. Do you remember whether that New England Study
ever came up?

22

A. No, I don't think it did.

23

Q. Either by you or your other

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physicians?

A. I don't think it did in the course of any specific meetings.

Q. So while that study was available to you, you, or none of your staff ever compared what was happening in your Hospital to what happened in New England?

A. Well, I don't think we did it at a formal meeting, but I am sure every cardiologist on the staff had read that report.

Q. But nobody mentioned it, nor did anybody closely analyze it to compare Sick Kid's with New England?

A. Not specifically.

Q. Then certainly that New England Study, do you remember giving a copy of that New England Study to the police, again during that critical four or five prior to charges being laid?

A. I don't think they ever questioned me about anything like that.

Q. Do you agree with me, Doctor, that if you wanted to compare the experience at the Hospital for Sick Children and the experience in New England, exemplified by Exhibit 126, there would have to be a rather prestigious undertaking by someone



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to make a proper analysis?

A. Oh, yes.

Q. Because in order to see whether or not your Hospital favourably compared, or unfavourably compared with the New England experience, you would have to look at the total number of babies in the time period from January of 1976 through to December of 1982, would you not?

A. Yes.

Q. You would have to analyze all those babies in each time period to determine who were living after one year?

A. Yes.

Q. Which of them died?

A. Yes.

Q. The extent of their cardiac anomalies?

A. Yes.

Q. The extent of the non-cardiac anomalies?

A. Yes.

Q. And then compare the non-epidemic to the epidemic periods to determine if there was any variation of change?

A. I believe something like that.



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Q. And again something, an
undertaking such as that is obviously phenomenal
and prestigious because you have many thousands of
babies going through your Hospital on a yearly basis.

A. Yes.



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Q. And we have found it exhausting in these Commission Hearings to go through 36 babies. If you were doing a proper analysis, you would have to go through many thousands?

A. Yes, you would.

Q. Thank you. I want to talk about the morning cardiology conferences that would occur on Wards 4A and 4B, and I believe in Volume 20 at page 3582 to 3585 you indicated that these conferences would occur on Monday to Friday mornings and would include some 20 to 30 people, including some of the nurses. Do you remember giving that evidence?

A. Yes.

Q. And one of the purposes of those morning conferences, as I understand it, would be particularly following the death of a baby on the ward, the resident, cardiology resident or alternatively the paediatric resident who had been there when the terminal events occurred would then discuss with all of you at those morning conferences what happened with respect to the death; is that correct?

A. Yes.

Q. And the purpose of those meetings, I gather, was to see what happened, what



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could have assisted the case, and what experience you could gain from it in order to prevent it from happening in the future?

A. Yes, in general.

Q. And what was the information that was disclosed then by the cardiology resident or the paediatric resident to you at those meetings following the death of any one of these 36? What sort of information was available and what was said, generally speaking?

A. Well, the fellow involved would simply describe the background of the patient. The extent to which he would do that would depend upon how much presentation had been made on that individual at a previous conference.

Q. When the baby was alive?

A. When the baby was alive.

Q. I understand.

A. And then a description of what had happened and the events leading up to the death would be made, and then a commentary on what was considered to be the explanation.

Q. Well, for instance, would the baby's chart or records be available at those morning conferences?



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A. If it occurred during the night, they would be in the Medical Records Department.

Q. So what would be happening would be an oral presentation by the resident or fellow, some listening and some discussion?

A. Yes, he would probably have the zebra package.

Q. All right. Now, were notes or any minutes kept of these individual meetings following the deaths of any of these babies?

A. Not any formal minutes, no.

Q. Well, suppose during the course of those discussions, again speaking very generally, you say no formal notes; do you know of any notes, any minutes, anything in writing that you are aware of that would assist this Commission in determining, relating to these 36 baby deaths, what was discussed on those death rounds or those morning rounds?

A. I do not know that I can say that because individuals in that group may have made notes as they sometimes make notes about the patients who are being considered for study or have been recently studied.

Q. Presumably again, one of the purposes would be to say what went wrong and what



B4

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could we do in the future to prevent this from
happening?

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A. Yes.

5

Q. It would be recommendations?

6

A. Yes.

7

Q. If nobody wrote them down, how

8

would anybody know six months later whether the

9

recommendation had previously been made and had not
been followed?

10

A. Well, it would probably be that

11

any implications that arose there would be noted by

12

the cardiologist who is what we call the HSC

13

referring cardiologist, and he would incorporate that

14

in letters if there were any particular recommendations.

15

Q. See, one of the difficulties

16

I guess we are having three years after the events is

17

trying to find out what was discussed there, and if

18

nothing was taken down in writing that you can point

19

to, how would anybody know whether any such discussion
even took place?

20

A. Well, I suppose we work rather

21

differently from the way you do. Generally speaking,

22

on rounds it is uncommon for us to take notes.

23

Q. But Doctor, were you not being

24

concerned, if not very concerned, if not totally

25



1
2 concerned when you get to the month of March about
3 the frequency, the incidents, the increasing incidents^{ce}
4 of baby deaths on Wards 4A and 4B?

5 A. Yes.

6 Q. I could understand on the
7 normal events that occur in the Hospital for Sick
8 Children, but this was an abnormal event, was it not?

9 A. Well, it was a high number, yes.

10 Q. Something that concerned you?

11 A. Yes.

12 Q. Yet no notes were taken that
13 you can point to?

14 A. Not in the morning conferences
15 that I am aware of.

16 Q. All right. Would Dr. Freedom
17 be there in those morning rounds?

18 A. Yes.

19 Q. So do I take it that everybody,
20 at least during the epidemic period, the people that
21 mattered so far as the Hospital for Sick Children
22 were concerned, including some of the nurses, would
23 have an on-going knowledge of the increasing incidents^{ce}
24 of baby deaths as a result of these morning rounds?

25 A. In March you mean or throughout
the whole period?



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2

3

Q. Throughout that nine month
period.

4

A. Yes, to varying degrees, yes.

5

6

Q. I understand. Whether or not
they were concerned or not concerned, you are not
able to assist me?

7

8

A. No.

9

Q. But certainly you were concerned?

10

A. Yes.

11

12

Q. You have also adduced in
evidence Exhibit No. 133 which is a New Zealand
article which correlates age, serum levels and
dosages administered to various babies. Do you recall
that study?

13

14

A. I do.

15

16

Q. When did you first read that
article?

17

18

A. Oh, I cannot remember when,
but it was some time ago.

19

20

Q. Well, was it again prior to
the first three or four days involving the police?

21

22

A. Oh yes, I think so. 1977 the
article was written.

23

24

Q. I understand that, July 13th,
1977. Do you recall reading it then at about that

25



1
2 time?

3 A. Somewhere around 1977 or 1980,
4 I think when I was doing a revision of one of our
5 books.

6 Q. So far as that article is
7 concerned, it really gives one an idea as to what
8 would be the proper administration dose for a particular
9 baby, depending upon its age and its weight?

10 A. Well, that is a debatable
11 question.

12 Q. Well then, do I take it that
13 particular article, then, is not something that you
14 as a cardiologist were relying upon in the epidemic
15 period?

16 A. No. What that article showed
17 me was not the desirable level of medication because
18 it was higher on the whole, the dosage that was
19 employed in that study, than we use.

20 Q. I understand that. So you
21 were not relying upon it?

22 A. What was of interest in that
23 article was simply the fact that you can have levels
24 that are above what are arbitrarily used in guidance
25 to residents and others as in the handbook without
toxic implications.



1
2
3 Q. But the very highest level
4 without toxic implications in that study was 6, was
5 it not?

6 A. Yes.

7 Q. Nothing beyond that?

8 A. No.

9 Q. And even that was surprising
10 to you?

11 A. Well, it was, but it existed
12 and I think that was the important point.

13 Q. So if we double that to 12 or
14 triple it or ten times that, if 6 was startling to
15 you, anything above that would be very amazing?

16 A. Yes.

17 Q. You have told Mr. Hunt
18 yesterday involving the digoxin levels obtained from
19 Baby Estrella were not made known to you until
20 sometime in the first two weeks of March, 1981. Do
21 you recall giving that evidence?

22 A. Yes, I do.

23 Q. Certainly, in January of 1981
24 Dr. Taylor knew of them, Dr. Mancer knew of them and
25 Dr. Freedom knew of them?

A. In February?

Q. February.



1

2

A. Yes, I believe that is true.

3

Q. All right. Would there be any

4

reason why those rather remarkable results would take

5

so long to come to your attention, another six weeks

6

later?

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A. I don't know why that would have been unless it was because they felt that the results were not valid.

Q. Well, when the Metropolitan Toronto Police arrived in your Hospital, again, two or three days following March 21st, did you make any reference to them about the fact that that was a contaminated sample and therefore unreliable?

A. I don't know whether I did that but I know that by that time that we had had the meeting and the whole issue had changed somewhat.

Q. Well, Dr. Rowe, you recall in those meetings that one of your, and I don't know who Dr. MacLeod is, what is his position?

A. Dr. MacLeod is the Head of the Division of Pharmacology.

Q. All right. Do you recall at those meetings Dr. MacLeod saying unequivocally that there was no error in the results, that the results were accurate?

A. What he means by that is that the measurements ---

Q. Never mind what he said, what he meant by it, I want to know whether he said it?

MR. ORTVED: Let him answer the question.



C.2

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MR. ROLAND: Let him answer the question.

4

5

MR. PERCIVAL: Q. I want to know whether he said it and then I'll ask you.

6

A. Yes, he did say it.

7

8

THE COMMISSIONER: Well, to solve this problem, he said it and now whatever explanation you want to put in just carry on.

9

10

THE WITNESS: Thank you, Mr. Commissioner.

11

12

13

A. I understood that that statement was qualified by the fact that there was no question of error of the measurement of the amount of the substance.

14

15

16

Q. Well, you say you understood that. Is that something he said in addition or is that something you have learned later?

17

18

19

A. No, I believe that that may have been in the same meeting. I am not absolutely sure but I think that that was what I recall him saying.

20

21

22

23

24

25

Q. The postmortem reports said that the sample was contaminated. I gather you are not able to assist us because I don't think you have been asked this yet, if it was contaminated it may result in a higher digoxin level or a lower digoxin level because of the contamination?



C.3

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2

A. Yes.

3

Q So that if we are talking in

4

terms, and I think it was 72 nanograms that were

5

reported in relation to Estrella, because of the

6

contamination it may be equally true that it might

7

have been greater than a hundred because of the

8

contamination, just as much as it could be less than 72?

9

A. Yes.

10

Q Your Hospital did what is

called a gutter blood study in July of 1982, is that

11

correct?

12

A. I understand so.

13

Q All right. Do you know anything

about that?

14

A. Not in great detail.

15

Q Dr. Marcer was involved in that?

16

A. I don't know who was involved,

17

it was the pharmacologists and the pathologists I

18

believe.

19

Q Well, was that the first time

anybody tried to make any studies in relation to

20

serum levels as a result of the contaminated sample?

21

A. I don't know.

22

Q Well, are you aware of anything

23

before that?

24

25



C.4

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A. I don't know because I am not
an expert in that area, I wouldn't read that literature.

3

4

Q. Thank you. Did you at that
meeting then with the police initially convey to them
that there was very severe doubts in your mind that
the Estrella result of 72 nanograms was unreliable?

5

6

7

A. The one in the Coroner's office?

8

Q. Yes.

9

A. I don't remember.

10

Q. All right. When you met in the

11

Coroner's office on Saturday afternoon, March 21st,

12

we talked about that a little yesterday, the matter

13

of an intentional act was in fact discussed, was it not?

14

A. I don't remember what was

15

discussed in that, other than the general issue of

16

Estrella and so on, but I am sure that it must have
been.

17

Q. All right. Well, the matter of

18

murder was discussed?

19

A. Yes.

20

Q. All right. Control measures

21

were also discussed, were they not? Do you know what

22

I mean by control measures?

23

A. I presume you mean in relation

24

to digoxin?

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C.5

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Q Well, whatever control measures
that needed to be implanted ^{emended} for the purpose of
preventing any further deaths?

A I don't know, I can't recall.

Q You don't recall that?

A No.

Q There was in fact this meeting
on Saturday afternoon, March 21st, do you recall how
long that meeting lasted at the Chief Coroner's office?

A I think it may have been an
hour and a half or something like that.

Q You kept no notes of that
meeting?

A No, I didn't.

Q All right. There was, following
that meeting, a series of four or five other meetings
in ^{succeeding} ~~preceding~~ days up to the time charges were laid
involving the police, is that correct?

A I understand so.

Q And without getting into
specifics, those meetings involved members of your
staff, yourself and the police?

A Yes.

Q Morning meetings?

A Yes.



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Q Do you agree with me that the impressions that were given to the police by you and your staff during those morning meetings that you had, first of all, been concerned with the problem with the deaths for many months?

A Yes.

Q That there seemed to be at least to you a high number of baby deaths occurring in the Hospital?

A Yes.

Q That the time when the baby deaths were occurring were amazingly consistent throughout that time period?

A I don't remember that, but we may have well done that.

Q That those baby deaths appeared to be localized with any particular ward, do you remember that?

A I don't remember that specifically.

Q All right. That the likely means of administration of the digoxin was by IV injection?

A Yes, I remember that.

Q That it seems that whenever a



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particular team of nurses were involved the deaths were occurring?

A. That was brought to my attention by Sergeant Press or Sergeant Warr, I can't remember who it was.

Q. It was brought to everybody's attention in those meetings, wasn't it?

A. I don't remember when it first came out but I remember that I was not informed of that until either Monday, some time.

Q. Monday the 22nd?

A. Something like that.

Q. All right. But in any event, are you saying that that had never occurred to you up until that was brought to your attention on Monday, March 22nd?

A. That is right.

THE COMMISSIONER: Is Monday the 22nd?

THE WITNESS: Monday is the 23rd.

MR. PERCIVAL: 23rd, excuse me. Thank you very much, Mr. Commissioner.

Q. Do you agree with me that during those meetings with the police that there was no real discussion with respect to any other cause of the deaths other than digoxin overdose?



C.8

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A. That is correct.

3

Q. And that the digoxin overdoses

4

appeared to be administered intentionally of sufficient
quantity to cause the deaths of the babies?

5

A. That's what we thought.

6

Q. And do you agree with me that

7

again without getting into specifics that the

8

impressions that were given to the police during those

9

first three or four days was not that there was an

10

accident or that there was negligence but that some-

11

body out there was intentionally administering the
drug?

12

A. That's what we thought.

13

Q. Thank you. You completed your

14

evidence in July 28th at page 3233, saying that ---

15

MR. ORTVED: Volume?

16

MR. PERCIVAL: It is Volume 18.

17

Q. By saying that once the police

18

became involved you felt that you would conduct no

19

further separate investigation on behalf of your

20

staff. Do you recall saying that?

21

A. Yes.

22

Q. I gather matters involving

23

hospitals, doctors, drugs are matters of some

24

complexity?

25



C.9

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A. Yes.

3

Q. Something that at least so far

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as you're concerned and your staff is concerned are
reasonably expert at?

5

A. We are expert at?

6

Q. I would presume so since you

7

administer health cure in that Hospital?

8

A. It depends what drugs or what

9

stage and everything you're talking about.

10

Q. Well, what concerns me is that

11

why would you sort of say to police officers, to

12

lay individuals with no medical training, why would

13

you leave them to their own devices and say we are

14

not going to do our investigation, it's your problem?

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MR. ROLAND: That is not the answer that he gave. My friend read back his evidence, or at least referred to his evidence and he says "no further separate investigation". Now he says, he concludes from that that he didn't help the police.

MR. PERCIVAL: I am going to put that next, Mr. Commissioner.

MR. ROLAND: It is not fair to give it to him that way.

THE COMMISSIONER: If it is any consolation to you I remember his evidence. All right.

MR. PERCIVAL: Q. Dr. Rowe, I didn't mean to leave the impression, and excuse me if I did, certainly your staff continued to co-operate with the police.

A. Of course.

Q. But did you conduct, I mean in other words, were you suggesting to the police what avenues they should take, or were you waiting for them to ask you the answers?

A. Well, we assumed they would decide what they wanted to ask us.

Q. Because what I want to know is, were you directing it, or were they directing it



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and you were responding?

3

A. They were directing and we

4

were responding as far as I know.

5

Q. So you were not going further,

6

you were not answering, or suggesting any other lines

7

of investigation separate and apart from what they

8

were asking you for?

9

A. Yes.

10

Q. Again when you were completing

11

your examination in chief with Mr. Lamek, at Volume

12

18, at pages 3275; and then latterly in Volume 19,

13

page 3294, you were requested to list the babies in

14

question who died as a result of digoxin toxicity.

Do you remember giving your evidence in this regard?

15

A. Yes.

16

Q. Your evidence was that you

17

indicated that Baby Cook was unquestionably caused

18

by digoxin toxicity. Then you gave a list of other

19

babies who possibly should be included in that list,

20

being Miller, Pacsai, Inwood, Hines, Estrella, and

Velasquez. Do you remember giving that evidence?

21

A. Yes.

22

Q. And thereafter, on August 16th,

23

I believe as a result of further questioning by

24

Mr. Lamek you volunteered that you might have been

25



1
2 in error and that you should have included Baby
3 Lombardo?

4 A. Yes.

5 Q. And I gather the reason that
6 you added Baby Jessie Lombardo was in fact that she
7 had never been prescribed digoxin therapy, and yet
8 large amounts of digoxin showed up in her tissues
after she was exhumed?

9 A. I think ---

10 Q. Is that correct?

11 A. I think it was on the basis
12 of the Forensic aspects, yes.

13 Q. The Forensic aspects?

14 A. Yes.

15 Q. In other words, that there
16 were tests done on her tissues after her body was
17 exhumed, and as a result of that you would include
that?

18 A. Yes, I think that was the
19 reason.

20 Q. All right. Now, I ask you
21 to note Baby Jesse Belanger.

22 A. Yes.

23 Q. And I believe Mr. Elliot
24 has provided to you Exhibit 79, which is the medical
25



1
2 records - I'm sorry, Mr. Elliot, could you provide
3 that to the witness, please, Exhibit 79, the Belanger
4 Medical Records, and Exhibit 95A, the Centre of
5 Forensic Science Reports.

6 Perhaps, Doctor, while he is doing
7 that, you have your own notes involving that baby,
8 could you look at that please?

9 A. Surely.

10 Q. Thank you.

11 THE COMMISSIONER: Belanger, what
12 was the other baby?

13 MR. PERCIVAL: I beg your pardon,
14 sir?

15 THE COMMISSIONER: Was there
16 another baby that you wanted too?

17 MR. PERCIVAL: I just wanted to
18 direct the witness' attention to it.

19 THE COMMISSIONER: It is Exhibit 79,
20 and what is the other one?

21 MR. PERCIVAL: Exhibit 95A which is
22 the Centre of Forensic Science, I think it is 95D
23 which is the actual report of the Centre of Forensic
24 Science involving. It is page 3 of the report of
25 September the 29th, 1982, Mr. Commissioner.

Q. Dr. Rowe, Baby Jesse Belanger



1
2 had never been prescribed digoxin while at your
3 Hospital?

4 A. I don't have any record in
5 my notes that that was prescribed.

6 Q. Well, will you take it from
7 me, and the record will speak for itself, there is
8 no mention of digoxin being administered. At least
9 no record of digoxin being administered in your
10 Hospital?

11 A. I will accept that.

12 Q. The reports of the Centre
13 of Forensic Science indicate that in relation to
14 Jesse Belanger tissues from her liver showed 253
nanograms; tissues from her.

15 THE COMMISSIONER: What page is this?

16 MR. PERCIVAL: That is on page 3,
17 I think that is 79D, Mr. Commissioner, I'm sorry, 96D,
I apologize.

18 THE COMMISSIONER: 96?

19 MR. PERCIVAL: Yes, 96D.

20 THE COMMISSIONER: 96D, thank you.

21 MR. PERCIVAL: I have been reminded
22 that Jesse is a boy.

23 THE COMMISSIONER: I would have
24 thought Jesse was a boy too.
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MR. PERCIVAL: Listen to the music,
Mr. Commissioner, and you would have to know that.
Do you have that, sir?

THE COMMISSIONER: Yes. I am not
too sure, what is 96D?

MR. PERCIVAL: It is a letter of
the Forensic Science Laboratory dated September,
it is a report, it is called "Additional Report of
Centre of Forensic Science, September 29th, 1982",
directed to Mr. McGee from Mr. Cimbura.

THE COMMISSIONER: There may be a
96D, but it didn't occur between - I think it is 95
is probably the one we are thinking about.

MR. PERCIVAL: I was right the first
time I guess. It is an additional one, it is dated
September the 29th, 1982.

MR. LAMEK: Yes, it is the foot
of page 3.

MR. PERCIVAL: It is the foot of
page 3.

THE COMMISSIONER: Yes, I have it
now.

MR. PERCIVAL: Q. Dr. Rowe, it is
reported that in relation ---

THE COMMISSIONER: There is only



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one page of 95.

MR. PERCIVAL: I beg your pardon?

THE COMMISSIONER: There is only one page of 95D, did you say 'D' for 'dog'?

MR. PERCIVAL: 'D' for 'David'.

MR. LAMEK: I am sorry, it is 95E, Mr. Commissioner. September 29th, and it is the foot of page 3.

MR. PERCIVAL: Q. 95E, it is at the bottom, and is reported by the Centre of Forensic Science, Dr. Rowe, that 253 nanograms of digoxin are found in the liver of this baby; 43 in the sample of tissue in the muscle, 43 nanograms so far as this baby is concerned. Were you aware of that?

A. No, I wasn't.

Q. If your reason for including Baby Jessie Lombardo was the fact that she had never been prescribed digoxin, and she had large amounts of digoxin in her tissues on exhumation, and the same thing held true for Jesse Balanger, would you agree with me that that particular baby should likely be included in your list?

A. Oh, yes.

Q. So that when we get down to it, so far as your list is concerned involving these



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36 babies, if we used your list and discount
Velasquez because it was apparently toxicity caused
by another medication, we are left with a total of
eight babies, are we not?

A. Yes.

Q. They are Cook ---

THE COMMISSIONER: Can you hang on
just a second and I will get my own list.

MR. PERCIVAL: Yes.

THE COMMISSIONER: All right.

MR. PERCIVAL: Q. They are Cook,
Miller, Pacsai, Inwood, Hines, Estrella, Lombardo
and Belanger.

A. They are.

Q. And the reason I gather you
considered these babies as being caused, their deaths
being caused by digoxin toxicity, the reasons are
rather numerous?

A. I don't believe I said they
were all caused by digoxin toxicity.

Q. Well, I believe, and I want
to be fair to you, if I may have Volume 18, that is
pages 3275-3276.

THE COMMISSIONER: That is a failure
of communication, I think, I recall Dr. Rowe saying



1
2 he didn't say they were, he said they may have been.

3 MR. PERCIVAL: I am sorry.

4 Q. The reason they may have been,
5 you say on Cook it is unquestionably, I gather that
6 is not may?

7 A. That is not may.

8 Q. But the other seven are a may?

9 A. Yes.

10 Q. The reason that you included
11 these eight then I gather are for a number of reasons,
12 are they?

13 A. Yes.

14 Q. I suggest to you one of the
15 reasons are that the various indicia of digoxin
16 toxicity mentioned by Mr. Lamek, which lead to their
17 death, were present. Do you remember the list of
18 six things that kept coming up again and again?

19 A. Yes.

20 Q. That was bradycardia, vomiting,
21 sudden terminal events, ventricular fibrillation,
22 arrhythmia and shallow respirations?

23 A. Yes.

24 Q. The second reason I suggest
25 that you included these eight is that they either
had above normal ranges of digoxin testing either



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ante mortem and/or post mortem, and I say and/or
because some of them had that?

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A. Yes, but I am not qualified
to say about post mortem level.

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Q. I understand that, you made
that clear?

7

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A. Yes.

9

Q. But that is one of the matters
that you took into account in creating the list?

10

A. Yes, but I am not qualified
to say whether some of those levels are abnormal.

11

12

Q. I understand. Sometimes,
at least in relation to three babies, that is Cook,
Lombardo and Belanger, they had never been prescribed
digoxin in your Hospital, and yet they ended up
either in their tissues or in their blood with
digoxin levels far greater than the therapeutic
range, is that correct?

14

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A. I am not sure about the
far greater than therapeutic range in all cases. I
don't know about Lombardo, I don't - I am not qualified
to comment on Lombardo.

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Q. Certainly involving Cook it
is?

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A. Yes, I'm not saying it wasn't

25



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2 Cook, but Lombardo it wasn't.

3 Q. Thank you. I want to deal
4 now, Doctor, if I may with respect to the cause of
5 death. In Volume 17 at page 2973; Volume 18, pages
6 3277, you indicated in your testimony that any
7 consideration of an intentional overdose in your
8 Hosiptal in this time period was very unattractive
9 and appalling, do you recall using that terminology?

10 A. I can't remember exactly
11 what I said there, but that sounds like me.

12 Q. All right. Do I take it
13 from that, Doctor, that it is difficult for you as
14 a medical practitioner in a Children's Hospital
15 to accept that someone would be deliberating^{dy}
16 administering drugs to the detriment of a patient
17 as opposed to assist a patient?

18 A. Yes, it is.

19 Q. And you would think that
20 that administration, if it was deliberately done,
21 was something that is so mind-boggling, or heinous
22 that you don't even want to contemplate it?

23 A. Well, not quite that, but
24 very close to it.

25 Q. What would be the motivation
of a person who might intentionally administer



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digoxin to some of these babies?

MR. ORTVED: I don't know that he is an expert psychiatrist or an expert that someone in the motivation of persons who may be motivated to commit crimes, he is an expert cardiologist.

THE COMMISSIONER: Well, I don't think the Doctor will hesitate to say he does not have the qualifications for the purpose, but I think it is a legitimate question.

MR. PERCIVAL: Q. Dr. Rowe, would you answer it?

A. Yes. I am not, as you have already heard qualified to really answer but I can probably try to comment on it.

Q. Well, please comment on it.

A. The sorts of motivation would perhaps be that of mercy killing.



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Q. Is that commonly described
as euthanasia?

A. Yes.

Q. And I gather that why that
would be something that you would contemplate would
be that all of ~~these~~ babies were very sick?

A. Yes, they were.

Q. All of these babies had a
very minimal chance of survival?

A. Yes.

Q. Mr. Lamek tells me that is
not true.

A. Most of them did.

Q. Most of them, all right.
Was this matter of euthanasia or mercy killing
discussed by you and your staff again in that first
three or four days prior to charges being laid?

A. I do not know whether we did
or not. I think we thought of many things and that
may have come into that, but I do not recall. We
certainly did not keep notes.

Q. I understand. Again, a
matter of euthanasia is some great concern to your
profession, is it not?

A. Yes, it is.



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Q. Well, quite apart from your difficulty in contemplating that this deliberate overdosing was occurring, you and your staff did certain things to prevent it from continuing, did you not, again in those first two or three days following the police intervention?

8

A. Yes, we did.

9

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Q. And I want to go to the five steps. I think they are in Volume 18, page 3271, Mr. Commissioner. You took five steps, as I understand your evidence, first of all that you made digitalis or digoxin a controlled drug on the evening of Saturday, March 21st?

14

15

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A. Yes, that was done by Dr. Carver, the Head of the Department. I did not do that.

17

18

Q. I understand that, but then you did something to prevent it and that was one of them, and that is your evidence?

19

A. Yes.

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MR. ORTVED: Just to put Mr. Percival's question in context, this is before the police came in, is it not, Mr. Percival?

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MR. PERCIVAL: No, it is after, I believe.



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Q. Please tell me if it is before
or after, before or after your meeting on March 21st
in the afternoon at the Coroner's Office?

A. It is after the meeting in
the Coroner's Office.

Q. Thank you.

A. But before the police came
to the Hospital.

Q. To the Hospital, I am sorry.
So both of us I guess are right and wrong.

In any event, the police were involved,
to your knowledge, before the five steps were taken?

A. I am not sure.

Q. Do you recall whether these
preventative steps were discussed with the police
at that meeting in the Coroner's Office?

A. I do not remember that.

Q. The steps that were taken
were that digitalis or digoxin was to be made a
controlled drug?

A. Yes.

Q. And you mentioned 2225 hours.
Now, I guess that is about 10:25 or 10:30 at night?

A. Yes. The only knowledge I
have of this is the information that is in the prime



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facts and ---

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Q. On the what, I am sorry?

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A. In the -- is it in the

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statement of ---

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Q. Statement of prima facie

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facts. Sometimes we should rely on that and some-
times not, but is that your recollection?

8

A. Yes, and I have a copy of

9

that, of the original thing, which is now part of
the Exhibits.

10

11

Q. Well, Dr. Rowe, the fact

12

that it was made a controlled drug, how would you go
about that? Would you go around and shout out in
a loud speaker "Digoxin is a controlled drug"?

13

14

A. I did not institute that

15

order and Dr. Carver is the person who knows exactly
what was done and how he arranged it.

16

17

Q. Surely you must have discussed

18

that with him after Baby Cook died presumably four
or five hours after it was made a controlled drug?

19

20

A. Yes, but I did not ask him

21

how he did it.

22

Q. Well, do you know whether he

did it before Baby Cook died?

23

A. Yes.

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Q. Therefore I gather that
would be communicated to the nurses on Wards 4A and
4B before Baby Cook died?

5

A. I presume it must have been.

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Q. And the method of which it
would be communicated would be that they would take
digoxin out of the ordinary medical cupboard and put
it in with the narcotics under lock and key?

10

11

A. I do not know exactly how
they did it, Mr. Percival, but I would assume that
is the route they went.

12

13

14

15

Q. But notwithstanding that
having been done, a deliberate overdose of digoxin
was administered presumably to Baby Cook in your
Hospital within three or four hours?

16

A. Presumably.

17

THE COMMISSIONER: I am sorry, what
was that question again, presumably ---

18

19

20

MR. PERCIVAL: Within three or four
hours of it being made a controlled drug digoxin was
administered.

21

22

THE COMMISSIONER: That may be, I
do not know. What was the time of death of ---

23

MR. ORTVED: 4:56 a.m.

24

MR. PERCIVAL: 4:56.

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3 THE COMMISSIONER: I think the
4 only question that can legitimately be answered
5 yes is that within three or four hours of it having
6 been made a controlled drug the baby died.

7 MR. PERCIVAL: No, I would think
8 it is probably about six hours.

9 THE COMMISSIONER: Well, do we know
10 the time that ---

11 MR. PERCIVAL: 4:56 is the time of
12 death; the terminal events commenced, as I understood,
13 4:15.

14 THE COMMISSIONER: Well, I do not
15 want to get -- do we know the time, the precise time
16 that it was made a controlled drug?

17 MR. PERCIVAL: Well, that is set
18 out in 3271, as that is what the Doctor has given
19 by way of evidence.

20 MR. ROLAND: Mr. Commissioner, the
21 Doctor has said he was not himself personally involved
22 in that. I think there may be other evidence that
23 it was earlier than that. It might have been as
24 early as 9:00 to 9:30 that evening.

25 THE COMMISSIONER: It might have
been, but it might have been at 2225 hours on
Saturday, March the 21st. I am not convinced that



1
2 if in fact there was a deliberate administration
3 that it could not have taken place before 2225 hours.

4 MR. PERCIVAL: I understand.

5 THE COMMISSIONER: All I think
6 that you can draw from that, and we may be able with
7 more expert evidence, but right now all you can draw
8 from that is that if it was made a controlled drug
9 at 10:30 and the baby died at 4:30, that some six
10 hours before the baby died ---

11 MR. PERCIVAL: It was supposed to
12 have been made a controlled drug.

13 THE COMMISSIONER: Made a controlled
14 drug.

15 MR. PERCIVAL: I understand. I
16 think there will be other witnesses presumably who
17 will be questioned.

18 MR. ROLAND: Well, Mr. Commissioner,
19 just so that we can put all this in some context,
20 Dr. Rowe has said he does not know precisely himself
21 because he was not involved, and all I want to alert
22 you to is that there may be other evidence that it
23 may be even earlier than that; it might have been
24 9:00 or 9:30 that evening.

25 THE COMMISSIONER: Really, it was
directed to Mr. Percival. I just thought his
conclusion was not as clear as he would put it in
the question, that is all.



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MR. ROLAND: Well, the problem is Mr. Percival is trying to draw some precise evidence from a witness who was not himself involved.

MR. PERCIVAL: Well, with the greatest respect, Mr. Commissioner, he was very much involved.

THE COMMISSIONER: He was involved but he was not in charge.

MR. ROLAND: Well, he was not involved in the actual instructing in making it a controlled drug.

MR. PERCIVAL: May I continue, Mr. Commissioner?

THE COMMISSIONER: Yes, certainly.

MR. PERCIVAL: Thank you.

Q. The second thing that was done was that on page 3271 your evidence was that all digitalis or digoxin would be dispensed by either team leaders or charge nurses with the usual check by a second nurse and with this check being confirmed in writing and signed. I gather that is a procedure that is used for narcotics?

A. Yes.

Q. So that if it was going to be utilized or taken by one person in that ward, it



1
2 had to be checked by somebody else and confirmed in
3 writing and signed?

4 A. Yes.

5 Q. Then you apparently took the
6 step of having Drs. Costigan and Mountstephen, the
7 two associate residents do a check on all crash carts
8 for the parenteral digitalis preparations?

9 MR. ORTVED: Well, Dr. Rowe did not.

10 MR. PERCIVAL: I am reading his
11 evidence, Mr. Commissioner. I do not know what else
12 I can say.

13 THE WITNESS: I submitted that as
14 what had happened at the time, Mr. Commissioner.

15 THE COMMISSIONER: Well, I see
16 nothing wrong with that.

17 MR. PERCIVAL: Thank you.

18 Q. Fourthly, in the morning
19 a digitalis inventory was to be done in the Hospital
20 and all digitalis then, I gather in the Hospital,
21 was to be returned to Pharmacy?

22 A. Yes.

23 Q. To your knowledge was that
24 done?

25 A. Yes, I believe it was.

Q. And then new digitalis would

Simply the problem was to provide a
known benchmark or starting point
for the control of and accounting
for dip that was now to be required!



1
2 be dispensed from the Pharmacy to the locked cabinets?

3 A. Yes.

4 Q. Was that for the purpose of
5 making sure that if there was any digoxin on wards
6 throughout the Hospital that were of different
7 strength than that which was indicated on them that
8 it would not be further used?

9 A. I think that was the purpose.

10 Q. And did your Pharmacy after
11 the event test the digoxin that had been taken from
12 the wards, including Wards 4A and 4B and found that
13 they were all of the appropriate strength as listed
14 on the outside?

15 A. That was my understanding.
16 I do not know.

17 Q. Thank you. And the fifth
18 point at the top of page 3273, Dr. Rowe, you said
19 was that all crash carts will be checked daily for
20 parenteral digitalis. Do you recall that?

21 A. Yes.

22 Q. Quite apart from those five
23 points, Dr. Rowe, you did something further, did you
24 not, in those first four or five days?

25 A. I think Dr. Carver made some
other requirements.



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Q. Well, in particular, your Hospital kept this particular team of nurses off the ward?

5

A. Yes, I think that is correct.

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Q. And as a result of a combination of all those things, including the keeping of those nurses off that ward, if there was an epidemic, it stopped?

9

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A. Yes.

11

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Q. It stopped as a result of a joint action by your staff, the Hospital, the police and the Coroner's office?

13

A. Well, it stopped after that.

14

Q. Yes, and it has not continued?

15

A. No.

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Q. Doctor, this aspect of suspected murders in hospitals while being not very attractive to you or appalling to you is not new; do you agree with me?

19

A. No, it is not new.

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Q. And it is not new to you because even before you were faced with this in your Hospital you were aware of other occasions, other hospitals in the North American continent which had been faced with this very problem?



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A. Not the same problem but a similar problem.

Q. Yes. Now, I am showing to you -- are you aware of - in 1974 - a hospital in Petersburg, Virginia, mass murders taking place involving a nurse's aid and the drug lidocaine?

A. No, I do not remember that.

Q. You are not aware of that?

A. No.

MR. PERCIVAL: Mr. Commissioner, I have something and I have not got it in a -- it is from a Reader's Digest in December of 1976 involving Code 99 Emergency. I want to ask this witness whether he read this. You may find this humorous but the next one will not be.

Q. Do you recall reading that, Doctor?

A. No, I do not read this generally.

MR. PERCIVAL: Can we have that marked as an exhibit for whatever probative value it may be?

THE COMMISSIONER: Yes. You would never get away with that in a trial.

MR. PERCIVAL: I know, Mr. Commissioner,



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you have reminded us on a number of occasions that
this is not a trial.

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THE COMMISSIONER: All right. We
will make that an exhibit, Exhibit 151.

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---EXHIBIT NO. 151: Excerpt from Reader's Digest,
December 1976 entitled
"Code 99 - Emergency".

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MR. PERCIVAL: Q. Well, there
are other copies that Mr. Young is distributing.

10

11

Well, Doctor, if you did not read
the Reader's Digest in December 1976, did you read
the New England Journal of Medicine in
November of 1976?

12

13

14

A. I do not know. Is there
some article that you have there that ---

15

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Q. Well, you never know. Some-
times these things come out. Would you take a look
at this from the New England Journal of
Medicine, November 11th of 1976?

17

18

19

A. Is that the one from Ann
Arbor?

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Q. From Ann Arbor, yes.

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A. Well, I would have read that.

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Q. You would have read that and
you would have read that before you started studying

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the epidemic problem in your own Hospital?

A. No, I had not read this article until quite recently, but I had read about this when it was a matter for the local press.

Q. So you did read things like the Reader's Digest and newspapers where it involved hospitals and murders?

THE COMMISSIONER: I think he takes a strong stand about the Reader's Digest.

MR. PERCIVAL: Well, I guess so, Mr. Commissioner.

---EXHIBIT NO. 152: Excerpt from the New England Journal of Medicine dated November 11, 1976 entitled "Special Article - An Epidemic of Mysterious Cardiopulmonary Arrests".



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3 But in any event, this particular article
4 is in one of your medical journals, and I gather you
5 do, or you have occasion to read the New England
6 Journal of Medicine from time to time?

7 A. Oh, yes, my son gets it and, so,
8 I get second hand copies.

9 Q. This particular article is in
10 November 11th of '76 and dealt with the Ann Arbor --
11 Ann Arbor situation involving two nurses in the Ann
12 Arbor Hospital in the administration of the drug
13 pancuronium bromide. Are you aware of that?

14 A. Yes.

15 Q. And now, I want to particularly
16 look at this. Have you seen this since?

17 A. I have seen this recently.

18 Q. All right. What is rather
19 interesting, I'm sure you found, Doctor, that the
20 various things on the special article about "Mysterious
21 Cardiopulmonary Arrests", that there are indeed some
22 admonitions and advice?

23 A. Yes.

24 Q. By the physicians in question as
25 to what you should do when you have mysterious
suspected murders within a hospital. Is that true?

A. That is true.



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Q. And they suggest that statistical studies are necessary and you did that?

A. Yes.

Q. You did that. And that incident graphs be prepared?

A. Yes.

Q. And you did that?

A. Yes.

Q. And that these, if they are done during the time period, should represent some early indication of a problem?

A. Yes.

Q. And it also talks in terms really that the attention to the incidence of critical events should help prevent similar episodes in the future?

A. Yes.

Q. And I gather that's what you were trying to do during these mortality and morbidity conferences?

A. Well, we were trying, yes.

Q. I understand. May I have that marked as the next exhibit?

THE COMMISSIONER: It is already, it is Exhibit 152.

MR. PERCIVAL: Thank you.



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Q. It also indicates, Doctor, that the primary concern of the medical practitioners in the hospital is to remove the potential cause and prevent further incidence of death?

A. Yes.

Q. And that certainly was done by your hospital in the manner which you have indicated and was done in conjunction with the coroner and the police?

A. Yes.

Q. If it was occurring and if it was intentional, you did certain steps, made certain decisions which resulted in the events no longer occurring?

A. Yes.

Q. May I turn to another matter. We have introduced as Exhibit 131, I believe, on August 18th, Mr. Commissioner, the paediatric ampules, the adult strength ampules, the pills and the elixir. Doctor, you saw those?

A. I didn't see the pills, I saw much of the rest of them.

Q. All right. Well, perhaps I had better show you the box then.

Perhaps I may just show you the pills.



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Do these look like the digoxin pills that were
available in your hospital in March of 1981?

A. You don't mind if I take one out,
do you?

Q. No. We don't want to lose it,
though.

A. No, I won't lose it. Well, I
can't identify that just off-hand as digoxin.

Q. If other evidence is given that
these were obtained from your Pharmacy Department as
being that which had been confiscated on March 21st or
22nd and retained and then given to the police, do you
have any reason to doubt it?

A. No, it is just that it doesn't
look -- well, maybe I need a magnifying glass to read
the printing.

Q. All right. Do I take it that
the particular ampules in question, they are not
labelled digoxin, they are labelled something else.
What are they labelled?

A. Lanoxin.

Q. Lanoxin. And is that a brand
name?

A. That is a brand name by a
specific -- well, it is now I think a trade name as



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well.

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Q. All right.

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A. But lanoxin was a brand name of

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it as well.

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Q. In any event, those were

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apparently standard medication forms in your hospital
in March of 1981?

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A. That is the 0.25 milligram

9

tablet.

10

Q. The tablet?

11

A. Yes, and there was a 0.125

12

milligram tablet as well.

13

Q. All right. So, there are other

14

kinds of tablets as well?

15

A. Yes.

16

Q. But the ampules are freely

17

labelled "paediatric strength"?

18

A. Yes.

19

Q. And "adult strength"?

20

A. I know they're labelled paedia-

21

tric lanoxin, I can't remember about the adult
strength.

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Q. All right. Digoxin is also

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available outside your hospital I gather?

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A. Yes.

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Q. And if someone was seeking to administer digoxin in an unauthorized manner there would be no difficulty in obtaining it from an outside source, you agree?

A. I don't know how difficult it would be to get it because it is a prescription drug.

Q. It's not a narcotic though, is it?

A. No, it isn't. So, if somebody knew where there was a store of it, the pills particularly because they are so widely used.

Q. All right. Well, let's talk about the ampules. Do I take it that quite apart from the Hospital for Sick Children that every other hospital in Toronto had them in one form or another; it may not have been lanoxin, it may have been another brand name?

A. Every hospital would have it.

Q. Yes. And do I take it that there are different strengths of digoxin in a liquid form quite apart from those which were used commonly within your hospital and had been filed as Exhibit 131?

A. I thought there were just two strengths but I may be mistaken.

Q. All right. Do I take it if



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someone wished to though, that they could concentrate it?

A. I don't know.

Q. Again, that would be a question for a pharmacologist?

A. Yes.

Q. Thank you. When you ended your testimony at page 3275, I believe before we took our break, you talk in terms of the dilemma that was facing you and this hospital at this time because you could not be absolutely sure that a particular baby died from natural causes.

A. Yes.

Q. Do you remember saying that?

A. Yes.

Q. You also ended it by saying, at least so far as Cook is concerned, Baby Cook was unquestionably caused by digoxin toxicity and you named some others now who could possibly have been caused by digoxin toxicity.

A. Yes.

Q. As of this moment in time, Doctor, that is August 25th, 1983, do you have any opinion whether, so far as eight babies were concerned, that this was an accidental or intentional



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administration of the overdose of digoxin?

A. I don't know the answer to that question.

Q. Do I take it that you are not even prepared to consider that?

A. Yes.

Q. Particularly when Pacsai ---

A. I am perfectly prepared to consider it on whatever evidence can be brought on the subject.

Q. So, you do not have an opinion, nor do you wish to express it?

A. No.

Q. Not even in Baby Cook?

A. Well, Baby Cook, I think, is a real overdose but the others I can't say whether or not there was. I am prepared to accept it.

Q. Well, let's talk Baby Cook. Do you have any present opinion, whether that overdose of Baby Cook was accidental or intentional?

A. I think it is most likely intentional but I don't know.

MR. PERCIVAL: Thank you, sir. No further questions. Who do we have? Mr. Manning, are you next, sir?

The Commissioner



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3 MR. MANNING: With the permission of my
4 friends...

5 MS. McINTYRE: Yes, we had agreed to
6 let Mr. Manning go next.

7 THE COMMISSIONER: Yes, all right.

8 CROSS-EXAMINATION BY MR. MANNING:

9 Q. While we have heard a lot of
10 evidence with respect to the effects of the
11 administration of digoxin, Dr. Rowe, I am going to
12 take you back to that topic for a moment and ask you
13 about the absorption of digoxin after oral administ-
14 ration and ask you whether you would agree that the
15 absorption of digoxin after oral administration is
16 somewhat variable and that the amount of the dosage,
17 or the variations in dosage have been recognized as
18 presenting significant clinical problems?

19 A. I would agree that the absorption
20 is less complete than if you give, say, through a vein.
21 I'm not sure of the variability, but there are some
22 circumstances where it might be interfered with as far
23 as absorption is concerned if there is some gastro-
24 intestinal problem and we usually calculate that at
25 about -- we have to reduce the intravenous dose by a
quarter because of this factor.

Q. Would you also agree that the



1
2 absorption can be retarded by the mere presence of
3 food in the gastrointestinal tract?

4 A. I'm not sure about that.

5 Q. Would you agree that antibiotics
6 could decrease the absorption?

7 A. I'm not sure about that either.

8 Q. Would you agree that it was
9 advisable for physicians who were using digoxin to
10 be familiar with the exact preparation of the type of
11 digoxin that they are administering?

12 A. Yes, I do.

13 Q. And that is why?

14 A. Because of the bio-availability
15 of the drug. It can vary from one manufacturer to
16 another and has, in fact, done that.

17 Q. Are you familiar, Dr. Rowe, with
18 the drug that was used in the relevant time period?

19 A. Yes, it was lanoxin, Burroughs-
20 Wellcome preparation, I believe.

21 THE COMMISSIONER: I'm sorry, it was
22 lanoxin... ?

23 THE WITNESS: Lanoxin, Burroughs-Wellcome
24 preparation, I believe.

25 THE COMMISSIONER: Is that all one?

MR. MANNING: Burroughs-Wellcome, I



gather is the company.

THE WITNESS: Burroughs-Wellcome is the manufacturer.

THE COMMISSIONER: The manufacturer, oh, I see.

THE WITNESS: And I am not absolutely sure about the ampules, but that can be very quickly confirmed.

Q. What tests, if any, were done by the physicians at the Hospital for Sick Children at the relevant time period on the preparation which they were using; in other words, did anyone actually take those drugs from that manufacturer and run tests in order to determine what the bio-availability of the drug was?

A. I'm not sure, but I do believe there was some testing. I think we would have to get the pharmacologists and pharmacists to give the opinion on that. I just don't know. I have the recollection that there was some testing done but I'm not sure when or what the circumstances of the testing were.

Q. Or by whom.

A. Yes.

Q. Does your recollection stretch back to the time prior to the epidemic period or



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subsequent to it?

A. Well, I don't think it was prior
to the epidemic period.

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Q Would you agree with the statement,
Dr. Rowe, that in some patients it is almost impossible
to obtain a therapeutic effect with digoxin?

A. In some patients?

Q Yes.

THE COMMISSIONER: I am sorry, I don't
quite understand the question? Do you mean that some
patients, in some patients any digoxin will be toxic,
is that it?

MR. MANNING: No, I am saying, is it
impossible to obtain a therapeutic effect? I haven't
come to toxicity as yet.

THE COMMISSIONER: You mean it won't
have any effect at all?

MR. MANNING: Q It won't have any
therapeutic effect at all?

A. I am trying to think whether I
have ever encountered that. You know, nothing is
impossible in medicine but I don't believe I have
seen that situation.

Q What about the situation with a
patient who forms an inactive metabolite of digoxin?

A. With antibiotics or something of
that sort?

Q Yes.



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A. We haven't encountered that clinically to my knowledge.

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Q Was digoxin, during the epidemic period, ever given, to your knowledge, intramuscularly?

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A. I can't answer that, I don't know, not to my knowledge, but I wouldn't have been told specifically if that had been done, I wouldn't think.

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Q We would have to speak to the particular nurses or doctors who were present at the time?

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A. I think the nurses could probably establish that point.

12

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Q Are you aware of the opinion that digoxin should not be given intramuscularly because it causes severe pain and muscle necrosis?

14

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A. Yes, I am aware of that. We used to give it intramuscularly for many years, and maybe some of those experiences resulted in that conclusion.

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Q Was there any policy in the Hospital existing at the time of the epidemic period with respect to the administration of digoxin intramuscularly?

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A. I am not aware, I am not aware of any such policy.

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Q Would you have been aware of such a policy if such a policy existed?

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A. No, but the nursing service would surely.

Q. Who would have set that policy for the nursing service?

A. The Pharmacy Committee, I imagine, or something like that, the Pharmacy Committee usually controls things of that nature.

Q. It is your opinion, I gather, from listening to the testimony and reading the transcript of it, that the toxic effect of digoxin is more likely to occur if the heart is severely damaged, is that correct?

A. Yes, it is.

Q. So where a patient has a severely damaged heart, any cardiologist or clinician would recognize that the administration of digoxin to that particular individual had to be monitored very carefully?

(2) A. Yes.

Q. And it would also be important, would it not, to estimate the degree of improvement in the circulation after the administration of digoxin?

A. Yes.

Q. And there must also be a recognition of the need to correct any abnormalities that would occur?



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A. Yes.

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Q And that had to be done, did it not, Dr. Rowe, through careful observation by the clinician?

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A. Yes.

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Q And you have described on a number of occasions, since starting a very lengthy track through this Commission, the symptoms or signs of digoxin toxicity, or clinical signs, which would have told the doctor that there might be digoxin toxicity?

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A. Yes.

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Q You have also indicated to Mr. Scott that there were a number of other conditions that might as well show those signs, if I can put it that way?

15

A. Yes.

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Q But if you knew that a patient had a heart problem, or was on a cardiac ward, was being given digoxin and was being given diuretics as well; and if you also knew nothing more about that patient, but saw vomiting or sickness, or giddiness, or increased secretion of urine, or frequent motions to part with urine, what would be the first diagnosis by any clinician on the floor?

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A. They would be concerned about the possibility of digoxin effect, or digoxin toxicity, therapeutic toxicity.



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THE COMMISSIONER: That is the first concern?

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THE WITNESS: Yes, you would have to rule that out as quickly as possible.

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THE COMMISSIONER: What were those symptoms again, can you give them to me again, Mr. Manning?

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MR. MANNING: Sickness, vomiting, and I believe I said increased secretion of urine.

9

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THE COMMISSIONER: I suppose I have heard that before, but I don't know, is that a symptom?

11

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THE WITNESS: No, that is not a particular symptom of digoxin intoxication to my knowledge.

13

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THE COMMISSIONER: Could you tell us perhaps what are the symptoms of digoxin poisoning?

15

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MR. STRATHY: Excuse me, but as I understand it Dr. Rowe is talking about what he would call therapeutic toxicity rather than poisoning as such.

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THE WITNESS: Yes, it is toxicity.

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THE COMMISSIONER: What is the difference?

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MR. STRATHY: It is his direct knowledge, as I understand it he is talking about being the toxicity that can occur when digoxin is being administered in a therapeutic sense.

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2 THE COMMISSIONER: Oh, I understand
3 that, yes. I thought, whatever name you want to call
4 it, it is when there is too much digoxin in the
5 patient.

6 THE WITNESS: That is correct.

7 THE COMMISSIONER: And what do you say
8 are the symptoms?

9 THE WITNESS: Vomiting was mentioned.

10 THE COMMISSIONER: Yes.

11 THE WITNESS: There may be diarrhea.
12 The other symptom is irregular heart action.

13 THE COMMISSIONER: Are those the main
14 ones?

15 THE WITNESS: Those are the main ones.

16 THE COMMISSIONER: And there were some
17 others that Mr. Manning mentioned.

18 MR. MANNING: Q. Yes, I mentioned
19 giddiness. !

20 A. Well, giddiness in babies you
21 can't diagnose.

22 Q. What about increased secretion
23 of urine?

24 A. Increased secretion of urine, I
25 don't believe that is a symptom, I know that can
happen in adults but I have never seen that in babies.



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Q. Is the amount of secretion of urine monitored on the cardiology ward?

A. Yes, it is, because babies who are in heart failure have a decreased secretion of urine. If you are referring to the possibility that as you are improving with digoxin you pass more urine, I think that may be correct what you are saying, but as a feature of digoxin toxicity I would not say excessive urine is a feature.

Q. What about frequent motions to part with urine?

A. Bowel motions you mean?

Q. Yes.

A. Yes, you can have diarrhea.

Q. What about urine? What about an observed clinical ---

A. It is pretty hard to tell with a baby who is having a bowel motion, you know, they often pass urine with the motion.

Q. And if they don't have diarrhea but appear to be attempting to excrete urine, is that a sign?

A. I have never seen that.

Q. Would you agree that the single most frequent cause of digoxin intoxication is the concurrent administration of diuretics?



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A. Yes, I think I would, or something to do with renal function anyway, electrolyte disturbance from diuretics as you have suggested, or impaired renal function.

Q. Digoxin is of course a digitalis preparation?

A. Yes.

Q. Would you agree that all digitalis preparations have comparably low margins of safety?

A. Yes.

Q. And all can cause similarly severe toxic reactions?

A. Yes.

Q. And therefore because it can be fatal, and because it occurs frequently, physicians must exercise every precaution in prescribing it?

A. Yes, indeed.

Q. And patients must be monitored carefully?

A. Yes.

Q. With a view to ascertaining whether or not there is digoxin toxicity?

A. Yes.

Q. And it is also important to realize, is it not, Dr. Rowe, that when dealing with



G.9

1
2 the toxic effects on the heart, that all disturbances
3 of rhythm associated with high concentrations of
4 digoxin in the plasma, or tissues, are not necessarily
5 manifestations of digoxin toxicity?

6 A. Yes.

7 Q And conversely, that low
8 concentrations of the drug in plasma do not preclude
9 the possibility of a drug-induced arrhythmia or
10 other toxicity?

11 A. No, they do not preclude that.

12 THE COMMISSIONER: I am sorry, I don't
13 understand that, I am lost.

14 MR. MANNING: Q Mainly because you
15 don't get a high concentration in the drug, of the
16 drug in the plasma, that doesn't preclude the
17 possibility of a drug-induced arrhythmia or other
18 toxicity?

19 THE COMMISSIONER: Are we talking about
20 digoxin now?

21 MR. MANNING: Yes.

22 THE COMMISSIONER: So you may have,
23 what you are saying is there may be digoxin toxicity
24 notwithstanding the fact that there is a low level in
25 the blood, is that right?

THE WITNESS: That has been established.



G.10

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I think myself that is uncommon, but I believe --

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THE COMMISSIONER: I beg your pardon?

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THE WITNESS: I think it is uncommon.

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THE COMMISSIONER: Yes.

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THE WITNESS: But I believe it has
been reported.

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THE COMMISSIONER: All right.

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MR. MANNING: Q. And that is not a new
fact that has been recently reported in the last six
months or a year?

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A. No, no.

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Q. In fact that particular fact has
been reported for five or seven years?

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A. Or more.

15

Q. Or more?

16

A. Yes.

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Q. So that even a medical student
being taught about the effects of digoxin, or other
digitalis preparations, would know that?

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A. I doubt it. I think the emphasis
in medical/student education would be in the more
common variety, because I think that is rather uncommon.
The more common variety being those in which the levels
are higher.

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Q. But if I were to tell you that

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that particular comment in found in Goodman and
Gilman's Therapeutic, I will get the name for you but
I am sure you will know it, Pharmacological Basis of
Therapeutic?

A. Yes, they are fine pharmacologists
but I don't know that they have much experience with
paediatrics.

Q. That may be a matter that is
confined to adults rather than children?

A. I think it is possible that the
emphasis, it may be more common in adults, I don't
know, but it is certainly not very common in children.

Q. Would you agree that careful
and judicious, and I believe you would based on your
previous testimony, clinical appraisal is still the
most important diagnostic tool to determine whether
or not there is digoxin toxicity?

A. I do.

Q. Now, can we turn ---

THE COMMISSIONER: Are you turning to
something else?

MR. MANNING: Yes.

THE COMMISSIONER: Would this be a
convenient time then?

MR. MANNING: Thank you.

THE COMMISSIONER: We will take twenty
minutes.

--- Short recess.



/BN/ak

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---Upon resuming.

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THE COMMISSIONER: Yes, Mr. Manning.

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MR. MANNING: Thank you.

5

Q. Dr. Rowe, I am going to read

6

you a passage from the Goodman and Gilman book and

7

ask you whether you concur with this particular

8

passage, sir.

9

A. Yes.

10

Q. "Two further points about

11

cardiac toxicity are of particular

12

importance. First, the likelihood

13

the arrhythmia are directly related

14

to the severity of the underlying

15

heart disease. If subjects with

16

normal hearts ingest large but not

17

lethal quantities of digitalis either

18

in an attempt at suicide or by

19

accident, premature impulses and

20

rapid arrhythmias are infrequent.

21

The only typical findings are sinus,
bradycardia and AV block."

22

A. Yes.

23

Q. That has been your experience,

24

sir?

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A. Yes.

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THE COMMISSIONER: That was what,

4

sinus ---

5

MR. MANNING: Sinus, bradycardia

6

and AV block. Mr. Strathy would like to know what
AV block means.

7

8

MR. STRATHY: No, I understand.

9

I just said it was sinus, bradycardia.

10

MR. MANNING: I thought someone

said what does that mean?

11

THE COMMISSIONER: Well, I would

12

like to know what AV block is even if Mr. Strathy
does not.

13

14

MR. MANNING: Q. Could you tell us,
Doctor, what AV block means?

15

16

A. AV block is short for atrio

17

ventricular block, meaning that the impulses coming
from the top chamber to the bottom are blocked at
some point in between and so the rate becomes slow
at the lower chamber level.

18

19

20

THE COMMISSIONER: And you agree

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that those are the only typical -- I take it typical
means endogenous, does it?

22

23

THE WITNESS: My understanding,

24

Mr. Commissioner, was that he was talking about healthy

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individuals ---

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MR. MANNING: Q. That is correct.

4

A. --- who react differently

5

from those with heart disease, and typical, I think

6

that is true in the sense that of the accidental

7

ingestions in children at any rate, that is the

8

usual finding. The tolerate huge amounts quite easily

9

and when they do have problems they follow that

10

sort of description you have just given.

11

Q. Indeed, Doctor, immediately

12

thereunder the authors state:

13

"Infants and children seem to tolerate

14

higher concentrations of digitalis

15

in their plasma and myocardium than

16

do adults."

17

A. Yes.

18

Q. It seems the authors of this

19

text have done some research with respect to infants
and children?

20

A. Yes, indeed.

21

Q. Would you agree that the

22

most obvious cause of digitalis toxicity is the
ingestion of too large a maintenance dose?

23

A. Now, can I just have that

24

last bit again, please?

25

No shit,
Dr. Tracy.



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Q. The most obvious cause of digitalis toxicity is the ingestion of too large a maintenance dose?

A. Yes, I think that is so. I just have a minor reservation in that during initial digitalization there is also a risk, but I would agree that the usual event is not at that time. The usual time of toxicity is in the maintenance period.

Q. And that is the most obvious cause of digitalis toxicity?

THE COMMISSIONER: I am not sure I know what "obvious" means in that connection, Mr. Manning. It may be the most ---

THE WITNESS: Usual.

THE COMMISSIONER: It may mean the most usual, but it may also mean that as is obvious.

MR. MANNING: Well, it is the most obvious factor signalling the likelihood of digoxin toxicity.

THE WITNESS: The dose being too high.

MR. MANNING: Yes.

THE WITNESS: You know there is a truth in what you saying.

THE COMMISSIONER: But it would be



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hard to get it otherwise, would it not, because unless
you get too large a dose you will never get digoxin
toxicity?

4

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THE WITNESS: Well, no,

6

Mr. Commissioner.

7

MR. MANNING: Q. The difference

8

between the frequency and the amount of the dose.

9

Mr. Strathy must have read the book because he just
said frequency and that is the next sentence.

10

A. Frequency and amount, you

11

know, in general I would not quarrel with that

12

statement.

13

Q. What about the statements

14

that the most frequent cause is concurrent administra-
tion of furosemide that decreases body stores of
potassium?

15

16

A. Yes, I think that is true.

17

Q. If I can turn to the subject

18

of treatment of digoxin intoxication, can you explain

19

to the Commissioner if you are familiar with and if

20

you are, what your familiarity is with the administra-

21

tion of FAB, F-A-B, fragments of digitalis specific

22

antibodies in the treatment of digoxin or digitalis

23

intoxication?

24

A. I am familiar with the

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literature on the use of that preparation.

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Q. And indeed, that preparation has been used in some instances clinically, in some instances experimentally for the last 10 years?

6

7

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A. I am not sure how long it has been used, but it has been used by only one centre, to my knowledge.

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Q. And that is where?

A. In Boston.

Q. And it has been used to reverse the toxicity of the digitalis preparation?

A. Yes, it has.

Q. And those usages that you are familiar with show that even under clinical studies toxicity has been reversed?

A. Yes.

Q. Does the Hospital for Sick Children have such a preparation available for the reversal, if need be, of digoxin toxicity today?

A. It is not possible to obtain it.

Q. Why is that?

A. Because it is only made by one individual laboratory in Boston and they will not release it to anybody else.



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Q. Is there any reason why
they have held on to that?

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A. I do not know because it
looks like the answer to a lot of problems. It has
mainly been used in their hands for massive overdose,
accidental ingestion.

8

9

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Q. But it does seem to work?

11

12

A. Oh yes. It is surprising
that it has not become available but we have looked
into that, I can tell you.

13

14

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Q. You have?

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17

A. Yes, indeed.

18

19

Q. And it has also been described
in the literature as being worked on by a German
group; are you familiar with that?

21

22

23

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A. I am not familiar with the
German group.

Q. Or a Swiss group?

A. No.

Q. There has been entered as
an exhibit, and I apologize, Mr. Commissioner, I
cannot find -- I did not mark this exhibit, a document,
it is called "Pediatric Clinical Pharmacology of
Digoxin". I believe it was introduced during
Dr. Soldin's evidence. I do not have the number.



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3 THE COMMISSIONER: It was an early
number, I guess. Can anybody help us?

4 MR. MANNING: "Pediatric Clinical
5 Pharmacology of Digoxin". I can show you that, and
6 we can move on while we are trying to locate it.

7 THE COMMISSIONER: Well, it does
8 not matter unless you want to use it for some purpose.

9 MR. MANNING: Q. That article
10 seems to indicate that this particular preparation is
11 being used in more than one place and is being used
12 in both a clinical and an animal experimental setting
in order to obtain a reversal of digitalis toxicity.

13 A. Well, I am not sure of the
14 extent of its use other than the fact that Dr. MacLeod,
15 our clinical pharmacologist, is unable to get any
16 of the material for the reasons I have stated.

17 Q. There is a research
18 pharmacological group in the Hospital, is there not?

19 A. Yes, there is.

20 Q. Have they attempted to obtain
21 the results of the Boston group, in other words, to
get the preparation?

22 A. I would have thought that they
23 had -- that they can provide that information. I know
24 they have approached the Boston group and have been
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unable to get it.

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Q. What about other means of treatment of cardiotoxicity? Are there any others besides the use of the FAB preparation that you are aware of?

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A. Yes.

8

Q. What are they, sir?

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A. Well, the most important thing is to stop the drug; if you are administering the drug, you stop it and discontinuing the drug and close observation after that point is usually mostly what is required.

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Q. If I can just stop you there for a moment. You can continue, but stopping there at stopping the drug, if the drug was administered and one saw signs of toxicity, merely stopping the drug or not giving it say 4 or 5 or 10 hours later would not reverse or stop the process, would it?

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A. Not necessarily immediately but it would over a period of hours or it can over a period of hours. I do not know that it -- it depends on the level of the toxicity, of course, but in ordinary practical management of children who are on digoxin, that is the usual method that is enough to resolve the issue.



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But in addition to that, one would obviously have to look very hard at the electrolyte situation, particularly in relation to potassium. If the potassium is low in the serum, as you have pointed out, that can enhance the toxic effect of digoxin, and so under those circumstances there would be an attempt to raise the level of potassium in the blood.

Q. In that case, in order to help do that you would stop the administration of the diuretics?

A. Yes, you probably would. You might be caught if you have got a very sick baby.

Q. In what sense?

A. Well, you might have to or you may not have any baby. You might have to continue with the therapy.

Q. Does it work in the same way with respect to the administration of digoxin?

A. Well, to some degree it does. I think usually, though, because we have the back-up of diuretic we usually will take the digoxin off, just hold the digoxin or discontinue the digoxin, and if the potassium is all right then we have got a



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little bit of liberty with the diuretic. If the potassium is low, then you have to do something about that. So I think in general if you have a very low potassium you would not give diuretic.

Q. And in either instance, Dr. Rowe, it would be vital, would it not, that there be a correct diagnosis made at the time?

A. A correct diagnosis?

Q. Diagnosis as to the nature of the problem?

A. The nature of the underlying problem or the nature of the symptoms that we have talked about?

Q. The nature of the symptoms and an attempt, as I understand it, you diagnosis in order to treat, correct?

A. Yes.

Q. You have a baby that is exhibiting certain signs?

A. Yes.

Q. And it is of vital importance to diagnose the problem?

A. Oh yes. I am sorry, I did not quite follow.

Q. And to determine at that



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moment whether the potassium should be withheld or
the digoxin should be withdrawn or not given?

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A. Yes.

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Q. Are there any other means

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of treatment of digoxin intoxication?

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A. Well, you can give drugs.

8

Q. What kind of drugs?

9

A. Other drugs which may affect
the arrhythmia if one is present.

10

Q. What kind of drugs?

11

A. Well, other preparations.

12

Phenytoin is one.

13

Q. Phenytoin?

14

A. Phenythion, p-h-e-n-y-t-o-i-n.

15

Q. What is that drug supposed

16

to do?

17

A. It is supposed to suppress

18

the ectopic activity of the heart.

19

Q. What other drugs are available

20

for such treatment?

21

A. Lidocaine, l-i-d-o-c-a-i-n-e.

22

Q. What is it supposed to do?

What effect is it supposed to have?

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A. It has the same general

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effect.

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Q. Any other drugs?

A. There may be others. Those are the ones that we use.

Q. Those are the two. Are there any more that are used by other hospitals?

A. Well, there may be. The pharmacologists could perhaps answer that better than I could.

Q. Do you know what is available for use on the cardiac ward?

A. Yes.

Q. What other drugs besides those two were available for use during the epidemic period?

A. Well, I cannot recall.

Q. Were both those available for use on the cardiac ward?

A. Yes, I believe they would be.

Q. And is it possible that there were more?

A. There may have been other drugs like propanolol.

Q. Pro ---

A. Propanolol.

Q. And what was it supposed to do?



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A. Propanolol may be used for the same sort of general effect of suppressing the ectopic activity.

Q. Any other drugs?

A. No, those are the only ones that I can recall at the moment.



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Q. Are there any drugs that you are aware of, Dr. Rowe, that can prevent toxicity as opposed to those drugs which are used to reverse the toxic effect?

A. Prevent it?

Q. Yes.

A. I am not aware of a drug that prevents it.

Q. During the period of July, 1980 to March, you indicated there were a number of meetings and an attempt in some way to find out what was the nature of the problem, why there was this increased number of deaths, and we have heard your testimony with respect to that. Were the people on the cardiovascular research team ever called in to help solve the problem?

A. Cardiovascular research team?

Q. Yes. It is my recollection, my note, that there were people in the cardiovascular research -- I believe you called it "Focus" -- part of the hospital devoted to cardiovascular research as opposed to clinicians, pharmacologists or cardiologists. Did I misunderstand you when you said that?

A. No, there is a cardiovascular focus but it was not formed until after that period.

Q. When was it formed?



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A. I think the director of the
focus took over in January of this year.

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Q. I believe, Dr. Rowe, you stated
that the heart beats -- this is in answer to some
questions earlier -- because of the electrical signal
from the cells in the sinus node, correct?

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A. Yes.

Q. And if there is no electrical
signal, you stated that there would be no heart beat?

A. Yes.

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Q. And the electrical signal is
affected, you also stated, by disease and by drugs such
as digoxin?

A. Yes.

Q. All right. So, if a clinician
found a baby with no heart beat, that clinician would
look to see if there was any electrical signal in
effect?

A. Yes.

Q. And if there was no electrical
signal, the individual would look to see what affected
that electrical signal?

A. Try to find out what caused it,
you mean?

Q. Yes.



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A. Yes.

Q. And therefore would look to see whether it was affected by disease; correct?

A. Yes, he would be working to get the heart going again first though.

Q. All right.

THE COMMISSIONER: I am sorry, when you said "it", what was the "it"?

MR. MANNING: The electrical signal was affected by a disease or by digoxin?

A. Yes, I suppose in the broadest sense, yes.

Q. All right. That being the case, at each of these early conferences that you have described, from July to December, it would appear that no-one discussed the possibility of digoxin toxicity, correct?

A. From... ?

Q. From July to December.

A. Yes.

Q. Is that correct?

A. I think there may have been some references only in the therapeutic toxicity issue but not over the arrest itself, I don't think.

Q. That is because you had



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determined that the severity of the heart problems of the infants was the cause of death?

A. I believe so.

Q. All right. And that was fixed in your mind from July until the end of December as being the causes of death?

A. Yes.

Q. And is it fair to say, Doctor, that you never considered looking past that one cause of death?

A. No, I don't think that is fair to say that because in the issue over which doctors reached their conclusion about that cause of death they would slide through a whole host of things, of which digoxin would be one.

Q. But the most obvious cause of death was digoxin toxicity, was it not, based on what you have stated in answer to my question today? It is the most obvious, or it is the fact, or the cause, that you look at when you get the symptoms. You don't have an individual in another part of the hospital, you have infants in a cardiac ward being given digoxin?

A. Yes.

Q. And knowing what you know, and have known for years, why would that not have been the



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first and foremost cause of death in your mind?

A. Because of the severity of the malformation in the patient and the degree of heart failure and so on. Those are the things that would be uppermost. Now, the physicians would be looking at the question of whether the doses were right and all that sort of thing, but basically the malformation and severity is what leads one in that direction.

Q. Notwithstanding the text books and the teachings say that digoxin is a very potent drug.

A. Yes.

Q. And notwithstanding the fact that there are certain signs where a person is on digoxin that trigger a response in the physician's mind there might be digoxin toxicity.

A. Yes, but we have also pointed out the electrical mode of death in patients is the same.

Q. You indicated, I believe, that you attributed the increase in the number of deaths during that period to the severity of the malformations.

A. Yes, we did.

Q. Did any other children die



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during that period?

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A. In the hospital?

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Q. Yes.

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A. Yes.

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Q. All right. Did anyone ever sit

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down and look at their symptoms in order to determine

8

whether there was any correlation or similarity

9

between the symptoms exhibited by the children that

10

were severely deformed with respect to their heart and

those other children?

11

A. The other children that were

12

principally affected would be the infants on the

13

neonatal floor.

14

Q. Did anyone compare those?

15

A. Well, we talk about them every day

16

because they would have X number of deaths during the

year, too.

17

Q. Did you compare them?

18

A. Well, we don't make strict

19

comparisons but, you know, there is nothing there to

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suggest there are big differences between these groups

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at all.

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Q. So, they could have died as a

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result of digoxin toxicity?

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A. I have said before that I know

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of no way that you could exclude that possibility in
any baby who dies.

Q. All right.

A. Unless you had a whole lot of
information that was not available to us.

Q. So, in effect, you didn't do
any scientific study of those other babies and compare
them to the babies that you said caused the increase?

A. No.

Q. You also indicated that during
your September 5th meeting, you discussed the Turner
baby but you did not discuss the Murphy baby. Do you
recall that?

A. The Turner baby?

Q. Yes. You picked a couple of
examples of babies to be discussed to show the nurses,
in effect, that they weren't messing up, that they were
doing there job, correct?

A. That they weren't messing up?

Q. That they weren't.

A. Yes.

Q. That's right, that there was
an explanation for this increase in deaths.

A. Yes.

Q. Right. You discussed the Turner



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baby but you didn't discuss the Murphy baby?

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A. The Murphy baby?

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Q. I'm sorry, the Murphy child.

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A. No, we didn't discuss the

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Murphy child.

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Q. Any reason why not?

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A. Was that baby in this September

9

group -- was that child in the September group?

10

Q. Yes, Paul Murphy died August 23rd.

11

A. Yes.

12

Q. Philip Turner died August 1st.

13

A. Well, I think that we were

14

concentrating at that time in any event on the July

15

period because that conference had been set up in the

16

middle of August, or at least it was started, the

motions were started the middle of August.

17

Q. But you discussed the Turner

baby who died August 1st?

18

A. Yes.

19

Q. All right. The meeting didn't

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take place until September.

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A. Yes.

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Q. So, you don't really know why

23

you didn't discuss Murphy?

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A. Well, I think we wanted to look

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at the babies, which was what the nurses had been concerned about.

Q. The nurses were concerned about the babies?

A. Yes.

Q. Did anyone give any consideration to whether the surgeons were not doing their job?

A. I don't remember that.

Q. No. Did anyone give any consideration as to whether or not the clinicians were making improper diagnosis?

A. I don't remember that.

Q. No. In fact, you went into that meeting and those meetings with an, and I don't say this in any perjorative sense, Doctor, with a preconceived idea of what the objective of the meeting was to be about?

A. For the first meeting, yes.

Q. Yes. And that was to calm the nurses down who had voiced concern and to assure them that in your view, and the view of the other cardiologists and the residents and whoever else was at the meeting, that the nurses were doing a good job?

A. Yes.

Q. Yes. But no-one at that meeting



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or at a subsequent meeting gave consideration to the possibility that maybe somebody else was not doing a good job?

A. Oh, I don't think that would have kept anybody from making any comment if they had wanted to do it.

Q. Oh, I understand that, and you said that several times. But do you recall that even being discussed, the outside possibility that maybe the people who were on the floor at the relevant times, the doctors, were not able to make a proper diagnosis?

A. No, I don't recall that being discussed at all.

Q. Now, you indicated earlier in your testimony, Dr. Rowe, that you discussed those cases as good examples of where death was inevitable. Those are your words, sir. Do you recall that?

A. A good example?

Q. Yes.

A. Yes.

Q. At the September 5th meeting.

A. Yes.

Q. You extracted from the charts and the histories and the number of babies that had died certain babies where you felt they were good



Ill

examples to show death was inevitable?

A. Yes.

Q. Yes. Are you aware, sir, of whether or not anyone ever told the parents of those babies that death was inevitable?

A. Told the parents?

Q. Of those babies, that death was inevitable. No matter what was being done, no matter what operation was being performed, no matter what drugs were being administered, death was inevitable?

A. I don't know whether they were told that.

Q. Do you know, sir, whether any of the records that you have reviewed subsequent to that time show any notation by any doctor looking after those babies that death was inevitable?

A. We are now talking about which conference?

Q. September 5th.

A. September 5th. I'm not sure whether they were told by the specific physician involved, but that could be obtained, that information could be obtained.

Q. From the specific physician involved?



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3 A. From the physician who was
4 responsible for the patient. We don't usually have
5 a meeting about what physicians say to the families,
6 you know, in very specific terms.

7 Q. At that September 5th meeting,
8 you discussed whether to do the ECGs at an earlier
9 stage, whether the babies should be transferred to the
10 ICU or whether they should be monitored in a more
11 intensive way; correct?

12 A. No, I don't believe there was
13 a statement about ECGs being done at an earlier stage.

14 Q. I'm sorry, I thought that is
15 what you had earlier said. When did you first discuss,
16 to your recollection, an ECG at an earlier stage?

17 A. I don't believe that I ever said
18 that.

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Q. Page 1806, Volume 11 of your evidence, Dr. Rowe, there is a discussion in examination by Mr. Lamek, at about line 13, I will read you the whole paragraph:

"There was obviously a discussion, as I see it in the written minutes, by Mrs. Radojewski, that there was a discussion presumably from the physicians that these were emergency problems in a way, they go, as it says here, sour very quickly, and I think the nurses raised the question of whether it might have been better to do the echocardiogram at an earlier stage and so on."

A. Yes, an echocardiogram I can accept.

Q. I apologize, sir. So, was that put into effect after the September 5th meeting, were echocardiograms done at an earlier stage?

A. Well, I think that as a result of that meeting everybody was conscious of certain patients who might have to have that study done a little earlier, because this was I think a weekend, or something like that. I believe efforts were made



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to make sure that that sort of delay didn't occur.

Q. You don't know then, Dr. Rowe,
whether in fact that was done?

A. No, I believe it would have
been done, yes.

Q. But do you know in fact whether
it was done?

A. Well, we have not had any
subsequent case, to my knowledge, where that question
has arisen again.

Q. Now I am asking you, sir,
whether to your knowledge that procedure was in fact
carried out after September the 5th?

A. Yes, I am just saying that it
is in that case, because we haven't had any subsequent
complaint about it and therefore it has been looked
after.

Q. Merely on the basis that you
haven't had a subsequent complaint, you are saying
today that it has been looked after?

A. Yes.

Q. Were the babies transferred to
the ICU?

A. After that particular period?

Q. Yes, sir.



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A. Whenever we could do it when the indications arose, we tried, we tried.

Q. As a matter of policy, you intended that that be done, correct?

A. We couldn't achieve that aim because of the problems that existed at a time with the occupancy of the ICU.

Q. Right. So do I take it then, Dr. Rowe, that it wasn't done?

A. We did it whenever we could.

Q. When did you first do it after September the 5th?

A. I can't tell you precisely, but that was the policy of the division that they would aim to get the patients that were necessary to go to ICU as often as they could.

Q. What about monitoring of a more intensive nature?

A. Well, monitoring of a more intensive nature was dependent upon the provision of an intermediate intensive care room, because it needed more nurses, and it needed more equipment and we made efforts to get that in motion, but it takes time.

Q. I appreciate that. When was it first done, after September the 5th?



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A. We brought it up in the
January meeting.

Q. When was it in fact done as
opposed to talked about?

A. It was implemented in 1982.

Q. Thank you. When in 1982?

A. I think it was November, I am
not exactly sure of the starting month.

Q. Was the transference to an ICU
ever implemented in fact?

A. Yes.

Q. As opposed to talked about?

A. Yes.

THE COMMISSIONER: I am sorry, I thought
that is what we were talking about, wasn't it, are
we talking about the intermediate ICU that you were
talking about was implemented in November?

MR. MANNING: No.

THE COMMISSIONER: It is something else?

MR. MANNING: I am not talking about
the intermediate ICU, I am talking about a discussion
with respect to the transfer to the ICU rather than
the discussions about the establishment ---

THE COMMISSIONER: Just a second,
wasn't that what you were talking about in November
of 1982, the intermediate ICU?



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THE WITNESS: The intermediate
Intensive Care Unit was the thing that was talked
about in 1982.

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MR. MANNING: Q Yes, but I am going
back, I am going back to September the 5th, and I am
asking you questions, Dr. Rowe, with respect to what
was discussed at that meeting?

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A. I understand.

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Q And I appreciate that the
intentions were there, but there were also practical
difficulties and problems with respect to facilities,
correct?

A. Facilities and staffing.

Q Facilities and staffing?

A. Yes.

Q Now with respect to the trans-
ference of the babies to the ICU as opposed to an
intermediate ICU type unit, was that ever done in
fact as opposed to merely discussed?

THE COMMISSIONER: Was that before,
was that a discussion in September of 1980?

MR. MANNING: The transcript at page
1806 seems to indicate so; page 1806, line 6:

"But the points that were discussed
and I think are appropriate for
discussion, were that, would it have



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"been better if this baby had been transferred to the Intensive Care Unit when it started to deteriorate, would that have made a difference, would we have got any further distance if we had done that."

These were the discussions on September the 5th. What I am now asking you, Dr. Rowe, is when, if ever, were any of these suggestions implemented?

A. I think, I am not quite sure whether that is now referring to the September 26th meeting.

Q. It is possible that I am mistaken, Doctor, but I took it that Mr. Lamek at that point in time was dealing with the September 5th meeting, and went on to the September 26th meeting some time later?

A. Well, he may have been, but I may have been confused, because I don't think on September the 5th the issue of Intensive Care Unit was raised. I think it was the intermediate Intensive Care Unit. Whereas I think at the September 26th meeting there was a question about ventilatory support in the ICU.

Q. Are you referring to notes, sir, that you have with respect to that meeting?



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A. No, the meeting, just the

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minutes.

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Q. Oh, the minutes?

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A. Yes.

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Q. That have already been introduced

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as an exhibit?

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A. Yes.

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Q. Then after September the 26th,

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Dr. Rowe, when if ever was that procedure implemented?

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A. We couldn't do anything about

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that at that stage because of the problems in the
ICU. When I say anything, we had to negotiate every

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instance that we tried to get down to the Intensive

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Care Unit and we had - we were refused on a number of

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occasions because it was not possible and the priorities
had to be drawn by the intensivists, but our next move

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in approaching this problem through the meeting in

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January.

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Q. What was the higher priority

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according to the intensivists that an increase in the
number of children dying on a particular ward?

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A. I suppose it must have been the

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nature and severity of the illnesses of the patients
they had in the unit, in their own unit.

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Q. With respect to the monitoring

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of a more intense nature that referred, did it not, Dr. Rowe, to having more nurses per patient?

A. Yes, more nurses per patient and a different sort of setting and more equipment of a special type.

Q. Let's deal with the issue, or the fact of the nurses, and the availability of more nurses. To whom did you go after September the 5th to say we need more nurses on this ward, because there is an increase in the number of deaths?

A. We had not formulated that quite as quickly as that.

Q. When did you come to that conclusion, was that in December or January?

A. I think that was in the latter part of the year, yes.

Q. Well, after January, to whom did you go, and when, to say we need more nurses on this ward because there has been too great an increase in the number of deaths?

A. Well, we submitted an application through the usual channels for the additions that have been, that you have been referring to.

Q. And allowed it to limp along in a bureaucratic type fashion?



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A. There is not much more you can do.

Q. Notwithstanding the alarm sounded by the nurses on the ward?

A. Well, the nurses on the ward through their representatives were involved in this process.

Q. No delegation went to the Head of the Hospital and said, we have to have more nurses here now, stat. as they say in the trade?

A. No.

Q. Is the reason, Dr. Rowe, that you yourself did not do that, that is go to the Head of the Hospital and say, we need more nurses here now, was based partially on your view that death was inevitable with respect to those children whom you looked upon as having increased the number of deaths?

A. I don't know that I could say that. I think that it was mainly that the suggestions we had had in September were not absolutely concrete, this is what we thought was a solution. It was obvious that it had to have input from a lot of people, including more thought from the nursing group and the Hospital Administration and so on. So it is not a very satisfactory approach to go and thump on a desk with a view that you need more nurses, unless



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you have the support and the mechanism and the
description to be able to sustain that.

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Q. And you felt you didn't

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because death was inevitable by reason of the severe
malformations?

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A. No. I think there was still

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uncertainty in some people's minds that might not be
the solution. You know, that there might be other
ways of dealing with it.

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Q. There was no uncertainty as to

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the cause of the problem, there was uncertainty as to
the nature of the solution?

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A. Yes. I don't know that it was,

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everyone was terribly uncertain, but in order to be
able to put the investment that is needed into that
sort of thing, you cannot go to a hospital administrator
and say, look, I think we need that, you have to have
a lot more solid evidence before you can even get a
nickel.

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Q. You have to have more evidence

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than an increase in the number of deaths?

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A. You have to have a reasonable

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argument from a lot of people before it can be
introduced, that is not just the doctors, but the
surgeons, the nurses and others.

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Q When you were being examined
by Mr. Lamek, and referring to Volume 12 of the
evidence, you indicated that you went away in the
fall of 1980 and there were no further meetings until
January. Meantime there still had been a number of
deaths and you had expected that the doctor you had
left in charge was responsible for having meetings,
Dr. Jedeikin, is it, is that how you pronounce it?



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A. Well, he was not the doctor left in charge. He was the senior Fellow in the Division.

Q. But you assumed, did you not, Dr. Rowe, that he was going to convene further meetings to discuss those problems?

A. Yes, I did.

Q. And indeed when you got back, there had been no meetings?

A. Yes.

Q. Now, after that, Mr. Lamek asked you whether to your knowledge the nurses were concerned about the ongoing deaths on the ward, and your answer at page 2001 of the transcript reads:

"A. I am not sure at that point because I wasn't on the floor at that time and I would rely for that sort of information from the cardiologists who were. I didn't specifically approach the head nurses, to my recollection, and say to them are you concerned about this.

Q. Was it your information that they were concerned?

A. That they were?



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"Q. That they were concerned?

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A. I am not sure whether they

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were concerned. I imagine they were."

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When after January did you find out that the nurses

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were in fact concerned, if ever?

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A. After January?

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Q. Yes, sir.

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A. About the deaths in a

particular month or what?

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Q. Concerned about the high

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number of deaths.

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A. The whole period?

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Q. Yes.

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A. Well, I think that that must

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have come out during the January meeting. I am not
sure.

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Q. Well, you would not have known

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while you were away?

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A. No, I did not.

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Q. What representations, if any,

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had been made to you by the nurses during January,
any?

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A. After the meeting, after

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the January meeting I think there may have been some
correspondence.

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Q. I believe you also indicated in your previous examination that in answer to Dr. Trusler's concerns, you in your correspondence indicated that you could amplify the list of the seven patients?

A. Yes.

Q. By how many?

A. Oh well, I think I was at that time preparing the December list.

Q. How many?

A. Well, I cannot tell you exactly what that list was until I look it up.

Q. All right, would you look it up, sir?

A. Yes.

THE COMMISSIONER: Well, perhaps I can help you on that. These are the ones that the children had died in December. I think we had those. Where is Dr. Trusler's list? What number is it?

MR. STRATHY: Exhibit 64, I think.

THE COMMISSIONER: 64, is it?

MR. STRATHY: 64 or 65.

THE COMMISSIONER: I think we went through this, did we not, who the other children were? The only ones that he has mentioned are in Exhibit 64,



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and if we turn to the Statement of Facts, the deaths
of those children are set forth. Which ones were
you concerned about, Mr. Manning?

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MR. MANNING: I just wanted
the numbers, that is all.

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THE WITNESS: I think,
Mr. Commissioner, Dr. Trusler refers to seven babies,
I believe.

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MR. MANNING: That is correct.

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THE WITNESS: And he is referring
only to the babies who came back to the ward from
the Operating Room.

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MR. MANNING: Q. And you were
going to refer to additional ---

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A. I think on the list of the
babies we discussed at that meeting anyway, there
were 11, and so we would have added four more names.
We could have added four more names, and I think
that is the matter to which I was referring in my
response.

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THE COMMISSIONER: But by the
time you applied on December 29th, there had already
been -- there had been two more: the Lombardo child
and the Belanger child had both died in the interval,
had they not?

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THE WITNESS: Yes, they had.

MR. MANNING: That is correct.

THE COMMISSIONER: And also I guess
the Gosselin child?

THE WITNESS: Yes.

THE COMMISSIONER: But they may
not have been operated on, I do not know, I cannot
remember offhand whether they had had operations or
not?

THE WITNESS: Well, Gosselin had
not but Lombardo and Belanger had, and I am just
trying to -- I think Volk was another. We had
another on the list called Hodgkinson and there was
another^{one}/on the list called Turner. I am not sure
whether that adds up to the numbers.

MR. MANNING: Q. And in your
December 29th letter you attempted, Dr. Rowe, not
only to refer to -- I mean you did refer to additional
patients, to the seven patients, you attempted to
set out possible solutions to some of the -- or to
the problem as you perceived it?

A. Yes.

Q. And Mr. Lamek took you through
those very carefully.

On the second page of your letter you



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indicated in the third last paragraph that another feature that had to be looked at was the level of expertise from the resident staff on duty, whether there are adequate numbers of senior residents from both surgery and cardiology rounding on such high risk patients late in the evening and so on?

A. Yes.

Q. That was a matter which could have been easily implemented, could it not, if you adjusted the schedules of the doctors?

A. Yes, I think so.

Q. That was not done, was it?

A. Not at that stage.

Q. When in fact was it done, if ever?

A. Well, I think we had an extra resident attached at the beginning of 1981, and I think that implied that we had our concerns addressed then because you cannot pick up residents every day of the week as extras. We had to get an assignment of another resident to that floor. So I think that was a definite effort to change that situation.

I believe that Dr. Trusler addressed the question of his residents rounding on the floor because as you may recall from the January meeting,



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the surgical staff felt that it was probably important for their surgical residents to be more directly involved than they had been up to that time, and so they were instructed to do that I think by Dr. Trusler. So there were steps taken in relation to those matters.

Q. Those steps were taken?

A. In relation to those matters.

Q. In relation to those matters.

Some time in the New Year?

A. Yes.

Q. And in the New Year you still held the view that the increase in the number of deaths was because of the severity of the illness?

A. I did.

Q. And in January did you get any statistics for the previous six month period of time in order to support that view?

A. Statistics?

Q. Did you collect any data?

A. No, I did not collect anything other than the patients that are under discussion.

Q. So this was an opinion that you held based on your knowledge of their medical condition only?

A. And shared by the other



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2 cardiologists of the group.

3 Q. And on January the 12th you
4 had another meeting where you did not discuss, as
5 I understand your evidence, the individual deaths
6 but you discussed the general problem; is that
7 correct?

8 A. Yes.

9 Q. And did you discuss who had
10 done what in the meantime between the September 5th
11 meeting and that date with respect to attempting to
12 find a solution to the problem?

13 A. I am not sure that we did.
14 I am not sure whether we discussed that point or not.
15 I think we were pressing on to try and get something
16 done about what we thought was an obvious solution.

17 Q. By that time the solution
18 had become obvious?

19 A. Well, we thought it was
20 obvious.

21 Q. Or one of the solutions, I
22 am sorry.

23 A. We thought it was obvious.

24 Q. What solution was that?

25 A. The particular solution we
thought was obvious that was going to take time to



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accomplish was the intermediate Intensive Care area.

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Q. How long did you anticipate that would have taken to set up?

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A. Well, I thought it might be possible to get that within a few months, but that was an optimism that obviously was not entirely justified.

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Q. How long did you think it would take to get approval of that intermediate unit?

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A. Well, I thought we should be able to get that through in February or March.

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Q. Are we talking in terms of money considerations or the usual passage of paper through the various channels in the Hospital, or a little bit of both?

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A. Both, I think.

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Q. At that January the 12th meeting you excluded Murphy and Heyworth, as I understand it, because of the type of disease?

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A. Yes.

Q. You excluded them from the 22 deaths referred to at that meeting?

A. Yes.

Q. Because they had a different sort of disease?



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A. Different sort of disease
and much older patients.

Q. Right, and they did not
fit into the rationale that you had established
earlier in 1980 as to the cause of death, or I am
sorry, the cause of increase in the number of deaths?

A. That is correct.

Q. Even though you indicated
they were terminable and expected deaths?

A. Yes.

Q. So even though they had a
disease which was terminable and death was expected,
you excluded them because they did not fit into your
rationale?

A. That is right.

MR. ORTVED: I think the disease
was terminal as opposed to terminable

MR. MANNING: I said terminal. I
meant to say terminal. That is what I have written.
If I said terminable it was a slip.

THE COMMISSIONER: Well, I suppose
the disease is terminable. It is death. I think
death is described as terminal.

MR. MANNING: Q. As a result of
your January 12th meeting you set up a committee to



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further study the problem?

A. I did.

Q. And that committee did not in fact do anything except study the problem; is that fair?

A. No, they did more than that.

Q. What did they actually do as opposed to what did they study?

A. Well, they were looking -- the purpose of the committee was to work out the actual logistics of the intermediate Intensive Care Unit.

Q. So you had determined that that was the most appropriate solution to the problem. You appointed a committee to work out the logistics but you would not have done that, Dr. Rowe, is it fair to say, unless you were pretty sure you could get that into effect?

A. I do not think that is the way that the hospitals work. You hope that you are going to be able to get it and I was very hopeful that the matter would be taken seriously, as I believe it was.

But the economics of the issue have to be weighed up by the administration and others, and



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they may have decided something differently, and
so it has to go through that sort of process. I
think that is a perfectly legitimate way for things
to move in a hospital. You cannot have one little
group of people saying, look, this is the answer to
all things, and then expecting administration to
cough up a quarter of a million dollars to put in
something that may in the end not be the answer to
the problem.



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So, that is the view I take on this.

I think there are certain safeguards in this process that are important.

Q. But you were certain of the causes of the problem. You never varied in your view from July through 'til January as to what was causing the increase in the number of deaths?

A. Well, we had different views about things. Oh, you mean the causes of death, yes, the severity of the disease.

Q. Yes, it was the severity of the disease. So, you did not have to look and you indeed never did in fact look for any other cause; correct?

A. Well, we looked -- we did. I mean, that was the conclusion after looking at a number of possible explanations.

Q. Yes. And that conclusion never varied, notwithstanding the number of deaths or the type of illness of the particular babies from July until January?

A. Right.

Q. And so, you knew the problem, you also felt that you could find a solution to the problem by the implementation of a different kind of system?



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A. We didn't, I think, ever say that it would guarantee that babies would be saved. We were hoping that it would but we knew that in some instances, and I think that was there in the September conferences, we weren't so sure that we would necessarily get babies through eventually, but at least we felt we would have a better chance of doing that.

Q. That's all medicine is, in any event.

A. Well, but it is not quite the same thing as saying the solution lies in an intermediate intensive care unit.

Q. But there are no guarantees in medicine. In the practice of medicine, you can't guarantee that a particular injection or the particular solution is definitely going to work 100 per cent of the time.

A. All I am saying, it was not black and white in the sense that I have this implication now.

Q. No, but you felt that this was something that ought to be tried but it was going to take many months to put into effect, had to go through committees, it had to be studied and monies had to be obtained; correct?



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A. Yes. I would hope that it might have taken a shorter time than it actually did, or course.

Q. But it did take a long period of time?

A. Yes, but I thought it might be shorter.

Q. And in the meantime, the number of deaths kept rising?

A. Yes.

Q. Dr. Rowe, have you personally ever seen a case of digoxin toxicity?

A. Yes.

Q. What were the symptoms?

A. Vomiting and heart block.

Q. That by itself?

A. Persistent vomiting.

Q. All right. And those symptoms presenting themselves to you gave you the diagnosis of digoxin toxicity?

A. Yes, with the associated information about the digoxin.

MR. MANNING: Thank you very much.

THE COMMISSIONER: Well now, Ms. McIntyre, what's the time now, do you want to start now or do



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you want to start after lunch?

MS. McINTYRE: Well, Mr. Commissioner,
seeing that there are six minutes left, perhaps it
would make sense to begin after lunch.

THE COMMISSIONER: Well, I don't care
whether it makes sense or not, it is just whatever you
want to do. Do you want to start after lunch?

MS. McINTYRE: I would prefer to start
after lunch.

THE COMMISSIONER: All right. Well
then, we will start at 2:30.

--- Luncheon recess until 2:30 p.m.

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--- Upon resuming at 2:30 p.m.

THE COMMISSIONER: Yes, Ms. McIntyre?

MS. CRONK: Excuse me, Mr. Commissioner,
with Ms. McIntyre's permission.

MS. MCINTYRE: Certainly.

THE COMMISSIONER: Yes?

MS. CRONK: You will recall yesterday,
sir, that we marked a number of coroner's investigation
statements pertaining to the children in our group of
36. There was one that was accidentally omitted and
that was of Laura Woodcock, dated June 30th, 1980.

THE COMMISSIONER: Should that go right
into -- should that be part of the ---

MS. CRONK: I think it can be marked
together with the others, sir, and be marked as a
bundle. Copies have been distributed.

THE COMMISSIONER: So, it will be part
of 150 then.

MS. CRONK: Yes.

THE COMMISSIONER: But it is Laura
Woodcock?

MS. CRONK: Laura Woodcock, sir.

THE COMMISSIONER: Has that been
distributed?

MS. CRONK: It has, sir.



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THE COMMISSIONER: Yes, Ms. McIntyre?

MS. MCINTYRE: Thank you, Mr.
Commissioner.

CROSS-EXAMINATION BY MS. MCINTYRE:

Q. First, Dr. Rowe, I have asked
you to look at two pages setting out normals for vital
signs, electrolytes, blood gases and blood cells as
well as urine output for normal babies and you have
indicated that you would agree with the values set out
there?

A. Yes, I do.

THE COMMISSIONER: Is this a document
that -- may I ask where this is from?

MS. MCINTYRE: This was prepared by one
of our clients, Mr. Commissioner. I thought it would
be helpful for all Counsel involved if we, in looking
at the charts, if we knew what the normal values were.

THE COMMISSIONER: Normal values of?

MS. MCINTYRE: It is vital signs,
electrolytes, blood gases, blood cells and urine out-
put.

Q. Now, Dr. Rowe, I believe you
had some modification you would have made to the
comments on blood cells?

A. I think this is a good and broad



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coverage that I would accept. It is a broad cover of the area and I would accept it.

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MS. McINTYRE: Okay, thank you.

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MR. LAMEK: Mr. Commissioner, may more than two play this game? Do we have copies of this?

7

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MS. McINTYRE: I'm sorry, I do not have many copies.

9

10

MR. LAMEK: Well, without at least a reading out of the numbers, we are all totally in the dark.

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MS. McINTYRE: I was not going to examine any further on that, as a matter of fact.

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THE COMMISSIONER: Well, okay, but how is it relevant, first of all?

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MS. McINTYRE: Well, Mr. Commissioner, I think it is very relevant at looking at the charts of the babies that have been provided which have abnormal readings in many of these areas.

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THE COMMISSIONER: Oh, yes, I see, all right.

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MS. McINTYRE: So that we have a common understanding as to what the normal values are.

22

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THE COMMISSIONER: We will make that Exhibit 153 and we'll get copies for everyone.

24

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MS. McINTYRE: Yes. I apologize I did



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not have sufficient copies.

THE COMMISSIONER: You agree, you concur with or without reservation?

THE WITNESS: Yes, without reservation.

THE COMMISSIONER: Without reservation.

---EXHIBIT NO. 153: Two page document setting out normals for vital signs, electrolytes, blood gases, blood cells and urine out-put for normal babies.

MS. McINTYRE: Q. Dr. Rowe, I would like to ask you a few questions about the charting of nurses that appear in the records that have been put in as exhibits. During your Examination-in-Chief, Mr. Lamek took you, in considerable detail, through many of the progress notes made by nurses with respect to the children. I would like to attempt to clear up a few matters.

First of all, Mr. Lamek, in a number of instances, suggested that there was some significance to be put on the fact that the nurses' notes appeared out of sequence with the doctors' notes and I would like to ask you if it is your understanding that nurses, in fact, make notes during this shift which do not appear in the progress notes themselves?

A. Yes, that is my understanding.

Q. And that the nurses then



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transcribe those notes on to the progress notes at the
end of the shift?

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A. Yes, that was what I thought was
the situation.

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Q. For the formal record?

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A. Yes.

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Q. Perhaps if I could ask you to
look at the chart of Baby Turner, which is Exhibit 44?

10

A. I have that record.

11

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Q. Now then, I understand that
during the shift the nurses would write down vital
signs, et cetera, with respect to the baby on a work
sheet which would be kept by the baby's bedside, is
that correct?

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A. I am not exactly sure of that
but I assume that is the case.

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Q. Well, let me show you, Doctor,
a document which has been provided to me by the
hospital entitled "Fluid Record Work Sheet". Are you
familiar with that?

20

A. Yes, I have seen that record.

21

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Q. Would this be the record which
would be kept by the baby's bed?

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A. Yes, I think that's kept on the
little thing next door to it, whatever that is called.



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Q. Okay. Just so we understand,
the chart itself would be kept in the nurses' station?

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A. Yes, it is.

5

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Q. So that during this shift, the
nurse would make her recordings on this document?

7

A. I think that's the way it is.

8

THE COMMISSIONER: When you talk of the
chart, is that...

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THE WITNESS: The record.

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THE COMMISSIONER: That's the hospital
record, is it? It is not all kept there, is it?

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MS. MCINTYRE: As I understand it,
Mr. Commissioner, and perhaps Dr. Rowe knows, if he
doesn't I can certainly call evidence on it, as I
understand it, these work sheets are thrown out, they
are not preserved. They are kept by the bedside for
several days, they are then disposed of after the
information on them has been transcribed to the progress
notes.

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THE COMMISSIONER: Well, I assume that --
I don't know how important this is, but I assume this
is a compilation of a whole lot of documents. Obviously
this Exhibit 44, you get things like letters from
doctors.

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THE WITNESS: Yes.

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THE COMMISSIONER: You get autopsy reports, you get laboratory reports and you get progress notes.

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THE WITNESS: Yes.

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THE COMMISSIONER: Now, the progress notes, are they kept in one place, that is, whatever the doctors and the nurses have to say about the child ---

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THE WITNESS: In the one part of the hospital record?

11

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THE COMMISSIONER: And that is kept in the nursing station, is that right?

13

THE WITNESS: Yes, it is.

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THE COMMISSIONER: And so the doctor, when he wants to put something on it, does he go there to put it on it?

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THE WITNESS: Yes, he does.

18

THE COMMISSIONER: Or do they go to him?

19

THE WITNESS: No, he has to go there.

20

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THE COMMISSIONER: He has to go there. It is never moved from there unless there is a Commission of Inquiry or something like that?

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THE WITNESS: That's true, sir.

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THE COMMISSIONER: Yes, all right. Or it goes to, I guess there is a Medical Records



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Department in the hospital somewhere?

THE WITNESS: When the patient is discharged, the record goes to the Medical Record Department, yes.

MS. McINTYRE: Q. Well, Dr. Rowe, just so that we are clear. I understand what would be kept in the nurses' station would include the progress notes, the medication and treatment records and the daily records in connection with the baby, not things like consultation notes. Would they be kept there as well?

A. Consultation notes would also be in the hospital record in the nurses' station.

Q. Would there be any parts of this record, like, Exhibit 44, that would not be kept in the nurses' station?

THE COMMISSIONER: There would be lots of them, I think, because there would be letters from doctors.

THE WITNESS: Yes.

THE COMMISSIONER: And I assume that -- well...

THE WITNESS: That's true, Mr. Commissioner. A letter from that admission is unlikely to be in the hospital record in a nurses' station



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2 during the admission of the patient, but if there had
3 been a previous admission, the medical record of that
4 previous admission would also be kept in the nurses'
5 station. So, there is the previous records that are
6 kept in a separate way and the current record which is
7 kept in the nurses' station.

8 MS. McINTYRE: The letter that you
9 referred to, Dr. Rowe, would that be in the possession
10 of the doctor to whom it was addressed, or where would
11 it be?

12 A. That letter will eventually find
13 its way into the medical record, but probably at the
14 time when the record is transferred from the ward to
15 the Medical Record Department.

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Q Thank you. Now, with respect
to Baby Turner ---

THE COMMISSIONER: I am sorry, we
haven't done anything with this Fluid Record Work
Sheet, do you want that entered as an exhibit?

MS. McINTYRE: Yes, could it please be
marked.

THE COMMISSIONER: Exhibit 154.

MS. McINTYRE: Thank you, Mr. Commissioner.
--- EXHIBIT NO. 154: Fluid Record Work Sheet.

MS. McINTYRE: Q With respect to
Baby Turner, Mr. Lamek asked you the following question
on page 1829 of Volume 11:

"Does the fact that Nurse Nelles had
not prior to 2:30 in the morning
recorded any observation that she had
made, or vital signs that she had
taken since 7:30 in the evening before,
suggest that in her experienced nurse's
view there was no particular problem
to record in that period."

Now, looking at the Progress Note to
which Mr. Lamek was referring, which is at page 52 of
the chart: Mr. Lamek was referring to the fact I
gather that there was no progress note written until



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after the arrest, and that note referred to the
period 7:30 until 0100 hours.

Dr. Rowe, do I understand then that
in fact Nurse Nelles probably did record, during that
period, such things as vital signs?

A. Oh, yes.

Q. And I would ask you to turn to
page 142 of the chart, which is the Flow Sheet that
appears in each one of these charts with respect to
the period that the child was on the cardiac floor.

A. Yes.

Q. And this sheet would appear to
record such things as temperature; pulse; respirations;
intake and output, similar to the items recorded on
Exhibit 154, is that correct?

A. Yes, it is.

Q. And with respect to the last
day of - the last part of the shift which Mr. Lamek
was referring to, it would appear that Nurse Nelles
indeed recorded the vital signs every hour starting
from 2000 hours?

A. Yes, that appears to be the
case, that is on page 143.

Q. That is where I see it, yes.

A. Yes.



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Q At 2000, 2100, at 2200, at 2300 and at 2400, so she would be recording those as she went along?

A I believe so.

Q Dr. Rowe, I notice in this chart that the vital signs up until the end of the prior shift, the vital signs appear to be taken every two hours at 10, 12, 14, 16. Who determines how often vital signs are taken?

A Well, I think that may be determined by nursing and by physicians.

Q Physicians order on occasion, do they, that vital signs be taken every hour?

A Yes, physicians do that, but I am not sure, but I think that nurses may make that decision themselves if they wish.

Q And would the fact that the nurses or someone made the decision to step up the taking of vital signs from every two hours to once an hour, indicate anything to you with respect to the patient's condition?

A It would suggest there was some concern.

Q Now, is it your understanding that the flow sheet to which I have referred would appear in all the patients' charts?



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A. Yes.

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Q Without taking you through them

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all?

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A. Yes.

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Q And looking again at the flow

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sheet for a moment, Dr. Rowe, there appears to be
notes on the sheets other than just the vital signs.

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There are notes about a doctor coming to examine the
patient and that sort of thing?

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A. Yes.

11

Q On page 142, and on page 143

12

notes with respect to chest sounds?

13

A. Yes.

14

Q And would it be fair to say

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that in reviewing the records, and in particular the
nurses' record, it is not appropriate to look at the
progress notes alone, but that they should be looked
at with the flow sheet?

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A. Yes.

19

THE COMMISSIONER: This flow sheet, I

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notice it is here, but I thought you said, or

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Ms. McIntyre had said, that is thrown away, it is not
kept?

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MS. MCINTYRE: If it is a different

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record, Mr. Commissioner, if you compare Exhibit 154
with page 142.

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THE COMMISSIONER: It is not the same thing. Oh, it is a work sheet, I see, and this is a flow sheet, which is something different from the fluid record.

MS. McINTYRE: And the fluid record work sheet would be kept by the bedside whereas the flow sheet would be kept at the nursing station.

THE COMMISSIONER: Yes, thank you.

MR. McINTYRE: Q Dr. Rowe, you have already given us considerable evidence, for reasons that we discussed, to explain the clustering of deaths during the Inquiry period. I would like to review first with you, briefly, and to do so I would like to refer you to Exhibit 64 and Exhibit 65, as well as Exhibit 138. As I read these documents they reveal nine separate factors which were discussed which might contribute to the cluster of deaths.

First of all, looking at Dr. Trusler's letter, he says in the third sentence, and this is Exhibit 64:

"Much of this may be related to increased complexity of operations."

I take it this refers to two new surgical techniques that the Hospital had developed and put into practice.



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A. Yes.

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Q. And more heroic surgery, as you
called it?

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A. Yes.

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Q. That was being done?

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A. Yes.

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Q. Would this mean that other
hospitals will be transferring to your Hospital sicker
babies?

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A. Yes.

11

Q. And babies that perhaps
previously would not have been thought to have a chance
of survival?

13

A. Yes, that would be true.

14

Q. Now, the next factor is that,
that is mentioned by Dr. Trusler, is the increased
complexity of patients. Can I take it that that
would refer to the younger patients and sicker
patients?

19

A. It could refer to younger and
sicker, it might also refer to some older patients as
well.

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Q. That had more severe cardiac --

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A. That had had operations at a
younger age that were just palliative surgery,
temporizing sort of surgery and now are in the

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category where they can have something in the way of
a repair.

Q Do you think there was any
change in that, in either of those factors following
the Inquiry period?

A. Following the Inquiry period?

Q Yes.

THE COMMISSIONER: Following the
epidemic period?

MS. McINTYRE: Yes.

THE COMMISSIONER: The Inquiry period
is still going on and it is not likely to end for a
while.

MS. McINTYRE: Q Following the period
for which this Inquiry was established to examine the
deaths?

A. I don't know that I have
absolute data on that.

Q Do you have any impressions?

A. Well, I think we are still
getting patients, older patients from outside, I am
not quite sure in relation to the babies.

Q With respect to the discussion
about younger babies, Dr. Rowe, I take it that on the
transfer from 5A to 4A/B an additional four infant
beds were added to the cardiac floor?



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A. I thought it was six, but an additional number, certainly - the major purpose of the move was to add another, add more infant beds.

Q So you believe it was six. I think I got the number four from the Statement of Facts, but that may be wrong, so there were additional --

MR. LAMEK: Or Dr. Rowe might be wrong, with respect.

MS. McINTYRE: Somebody is wrong.

MR. LAMEK: Right.

MS. McINTYRE: Q In any event, would that then affect I take it the average age of the children on the 4A/B survey?

A. Yes.

Q The neonatal unit is 5G?

A. 7G.

Q And they normally care for babies who are under one month of age, is that correct?

A. Yes, they do.

Q Can you explain to me why 16 out of the 36 babies that we are looking at were under one month of age, why would not some of those be on the neonatal floor?

A. Well, some of them may have started off on the neonatal floor. Or, when they came



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in they may not have been able to keep them on the neonatal floor for very long. Or they may have not been able to get to the neonatal floor. There are a number of factors that control that.

Babies who go to that floor must have been transferred from a similar nursery environment. Babies are not admitted to that floor who are first of all discharged home. So any baby who is discharged home from a hospital anywhere else and then has to be admitted to our Hospital, would have to come into a ward other than 7G.

Q Are neonatal patients considered to require a higher level of care?

A Yes, they are.

Q And would 7G then have certain monitoring equipment and other equipment that would not be necessarily available on 4A/B?

A Yes.

Q And would there be a higher ratio of nurses to patients on the neonatal floor?

A Oh, yes.

Q Do you know what it would be?

A I am not sure of the exact numbers, but it operates like an Intensive Care Unit.

Q What types of equipment would they have there that would not be available on 4A/B?



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A. Well, they would have more sophisticated monitoring devices, and specially in relation to oxygen in the blood, and carbon dioxide in the blood. They would also have monitors alongside every crib, or bassinet, or whatever.

Q. Were you under the impression that there was any particular problem with 7G during the period that would make it more crowded than usual?

A. I am not sure. It is never a ward that is empty, and it is always a problem of having to make way for the next group coming in by helicopter or whatever.

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3 So that neonatologists, if they have
4 a patient with congenital heart disease, are always
5 looking for ways in which they can get the patient
6 to the cardiac floor or out of their way, so that
7 the area that they are specially prepared to deal
8 with like ventilation of small babies and so on can
9 be looked after. So that if they have a patient
10 with congenital heart disease who they think might
11 be just as easily handled or at least in their view
12 is one that we should be able to look after, they
13 may try and get it down very quickly to us.

14 Q. So I take it it is like
15 the ICU, there is a limited number of beds and it
16 is the least sick that get moved out?

17 A. They have to take some
18 priorities on retaining or discharging patients, yes.

19 Q. Yes. Now, the next factor
20 that is identified and the last one in Dr. Trusler's
21 letter is a suggestion that perhaps the patients are
22 being sent back too soon from the ICU. In Exhibit 64 --

23 A. Yes.

24 Q. -- Dr. Trusler says:

25 "It may be that we are sending them
back too soon."

You follow up on that in your response to him, your



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letter dated December 29th, when you say:

"There are some matters that relate
to the early transfer of patients
from the ICU."

A. Yes.

Q. Then in the minutes of the
January 12th meeting, Exhibit 65, on page 2 it
appears that Dr. Edmonds confirms that the conditions
in the ICU during that particular period are excep-
tionally tight; is that correct?

A. Yes.

Q. He says:

"The census in the ICU is higher now
than it has ever been. The nursing
resources are very stretched and
there are obviously occasions today
when patients who are discharged
from the ICU are not ready for
ordinary nursing care."

So this was an exceptional factor during that period,
I take it?

A. Yes, I believe it was.

Q. And I will not review with
you the differences between the ICU and the ward, but
I take it that ICU had much more sophisticated



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equipment and again a higher ratio of nurses to
patients?

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A. That is true.

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Q. In the ICU it would be one

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nurse per patient?

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A. I believe it is.

8

Q. Whereas many of the nurses

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on the ward would be caring for four and five babies
at times?

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A. That is correct.

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Q. And in addition, the ICU

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would have heavier medical coverage, would they not?

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A. Yes.

14

Q. Or more medical coverage?

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A. More medical coverage, yes.

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Q. I am not suggesting the

intensivists were heavy?

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A. No.

18

Q. And the significance from the

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ward's point of view, Doctor, would be that obviously

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the care requirements of these patients from the

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ICU would be very heavy, correct?

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A. Yes, they would.

23

Q. And that perhaps some babies

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who died would normally have died in the ICU if they

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had stayed there?

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A. Yes.

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Q. Can you tell us if there was

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any easing of the situation in the ICU after the

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enquiry period or during the enquiry period?

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A. I think after the period

8

things seemed to improve.

9

Q. Do you have any idea when that

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would have been or why it would have been?

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A. No, I am not sure why that

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was but it was a lot easier to obtain transfer, and

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I presume it may have been due to a number of different
factors.

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Q. Now, the next ---

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THE COMMISSIONER: I suppose it

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is picky, but if you want to use enquiry, the period

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under enquiry would solve our problem. I take it

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the word "epidemic" is something you do not like or

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you find distasteful. It is easier for me because I

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can write it down as EP and it is a lot faster. The
period under enquiry is the same thing as the alleged

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epidemic period.

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MS. McINTYRE: For me epidemic

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carries connotations that I do not ---

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THE COMMISSIONER: Yes, well, I can

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understand that it may not be a thoroughly popular expression and I do not use it having drawn any conclusions at all. I am using it only because it is easier and faster to write, but you go ahead and use it, but if you ---

MS. MCINTYRE: Okay, the period under enquiry.

MR. ROLAND: Mr. Commissioner, maybe you could use PUI then instead.

MR. ORTVED: Or EP, enquiry period.

THE COMMISSIONER: Yes, PUI. Maybe one extra letter will not hurt me.

MS. MCINTYRE: Q. Now, factor No. 4 that is identified in Exhibits 64 and 65 is the need for a higher level of care on the ward and that has been gone over in considerable detail.

I just wanted to ask you, Dr. Rowe, when you refer in your letter to the need for a higher nurse-patient ratio, I take it the purpose would be to provide more intensive monitoring of the babies?

A. That was the intent.

Q. And you refer to respiratory monitoring that would be not available on the ward that many of these children might need. What exactly



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is respiratory monitoring?

A. Well, I think we wanted to have ways of getting values of blood gases through cutaneous electrodes. That was one of the implications from that. I think I mentioned that on page 2 of my letter, further monitoring with transcutaneous PO₂ electrodes.

Q. Yes, okay, thank you. And I take it that -- well, we know that after the period under enquiry such a unit was indeed established. That was in November of 1981?

A. 1982, I think.

Q. 1982?

A. I think so.

Q. And the consequence was a four bed intermediate Intensive Care Unit?

A. Yes, I think it has been named differently now as a monitoring room, four bed monitoring room.

Q. And that was put into Room 418, which previously had six beds in it?

A. That is correct.

Q. So it accomplished a reduction by two of the total infant beds on the floor?

A. Yes, indeed.



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Q. Now, the next factor that is mentioned in your letter, Dr. Rowe, is the level of expertise from the resident staff on duty and additionally whether there are adequate numbers of senior residents from both surgery and cardiology rounding on such high risk patients late in the evening and so on.

Dealing with the numbers first, Dr. Rowe, you have told us the numbers of doctors that were on duty at the various times. I would just like to compare between days and nights first the doctors that were actually around. I take it the cardiologist in the day shift would be on the ward a substantial amount of time, would he?

A. Yes.

Q. Whereas at night he would go home and only come if called?

A. Yes, depending upon the status at the time, the usual time of day when doctors depart of patients on the ward. If there were some major issues that he had to wait around for, he would wait around.

Q. So that might be in the evening?

A. Yes.



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Q. And then he would go home?

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A. Yes.

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Q. And that cardiologist, I

5

take it, would have worked all day?

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A. Yes.

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Q. In another part of the

8

Hospital?

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A. The cardiologist who is on

10

duty at night?

Q. Yes.

11

A. Yes, he would have worked

12

in another area of cardiology.

13

Q. He would not have had the

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day off?

A. No.

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Q. And on the weekends I under-

16

stand that the cardiologist on duty on the weekends

17

would come in for rounds but then would leave the

18

Hospital unless again he was required for some

19

particular emergency?

20

A. Yes, he would be on duty on

21

Friday evening and all day Saturday, Saturday evening,

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all day Sunday and Sunday evening and would do rounds

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on Saturday and Sunday.

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Q. Right.

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A. And would be on call at the other times, depending upon what the amount of call was, he might be doing a heart catheterization or he might have to do all sorts of things.

Q. But he would not routinely be on the ward?

A. He would not be on the ward for the whole time, no.

Q. Now, the cardiac Fellow again during the normal Monday to Friday during the day and probably early evening would be on the ward, actually physically present, would he not?

A. Yes, he might be in the out-patient department for a short time on one day but most of the time he is on the ward.

Q. And again at night he goes home at some point with his beeper -- I am sorry, a second cardiac Fellow who is assigned to the night shift would go home and would be available by beeper?

A. Yes, after the handover and the establishment that everything was reasonably quiet and stable.

Q. And again, that cardiac Fellow would have had other duties during the day in another part of the Hospital?



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A. Yes.

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Q. And on weekends the same

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would apply, the cardiac Fellow on duty would not
5 actually be physically present?

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A. He would be in for most of
7 the day.

8

Q. And with respect to the

9

residents, we know there were three during the day
10 shift and they would be physically present Monday
to Friday?

10

11

A. Yes, they would be there

12

Monday to Friday and then there would be one on at
13 night.

14

Q. And the resident on the

15

night shift would have worked during the day as well?

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A. Yes.

17

Q. So when there are three

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residents, he works two days, 8:30 to 5:30 and the
19 third day he works through the night until the next
day?

20

A. Yes.

21

Q. And then does another two
22 days?

22

A. Yes.

23

THE COMMISSIONER: He does not

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carry on from one day into the night, does he?

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THE WITNESS: Oh yes.

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THE COMMISSIONER: 24 hours?

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THE WITNESS: Yes, 26 or 28 hours.

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THE COMMISSIONER: And then what

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does he do? I take it he sleeps, I hope?

8

THE WITNESS: No, you see, he

9

just carries on.

10

THE COMMISSIONER: Well, I take it

11

he is allowed to sleep, is he, at night if he is

12

not required?

13

THE WITNESS: Oh yes, yes, he is

14

in a bed for some of that time, Mr. Commissioner.

15

THE COMMISSIONER: He is not like

16

an orderly officer or something like that who has
to be awake and on duty?

17

THE WITNESS: No, he is not like

18

an orderly officer but he has to spring to it when
he is needed.

19

MS. McINTYRE: Q. There are

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sleeping facilities provided for the resident?

21

A. Yes.

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Q. But he may spend hopefully

23

a good deal of the nighttime sleeping and away from
the ward?

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A. Oh yes, if everything is quiet he would do his late round and then he would be off from probably 11:00 or so through until the morning unless he gets called.

Q. So I take it you would agree with me in terms of actual physical presence of medical people, there is a significant difference between the day and night?

A. Oh yes.



BmB.jc
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Q And the changes that have been made in that are the addition of one cardiologist during the day shift since the period under inquiry?

A Yes.

Q When did that happen?

A I have that information but I can't remember exactly what month it was.

Q And we know that one resident was added to the rotation in January of 1981?

A Yes.

Q And that eased the situation somewhat?

A And we added a fellow as well.

Q A fellow?

A Yes. When two staff cardiologists were formed for the ward instead of one an additional cardiac fellow was attached. So, the additions to the medical staff of the ward consist of one staff cardiologist extra, one cardiac fellow extra and one resident extra.

Q Okay. Now, with respect to your comment that the level of expertise from the resident staff on duty, there was some question there. I take it that that was a matter that the nurses felt was a concern?



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A. Yes, I think they did.

Q. I would refer you, Dr. Rowe, to Exhibit 138, which I believe was put in evidence through Mr. Ortved and the discussion here is with respect to the numbers and qualification of the sub specialty residents at the Hospital?

A. Yes, in cardiology.

Q. Could you please explain - I see in this memo that there are references to fellows and references to residents. Which are these persons?

A. They are the same. The term is interchangeable. Sub specialty resident means a trainee in a sub specialty. Paediatric cardiology is a sub specialty department, division.

Q. Do they differ from the cardiac fellows?

A. No, they are the same thing as a cardiac fellow but the Hospital refers to these people in slightly different terms. The Hospital calls them all sub specialty residents. I think the reason for the different terminology is that they refer to those residents as they actually employ and pay. So, those are the fellows?

A. And they really are the fellows but some of the fellows are paid through other



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mechanisms. Their salaries come from other sources in the Hospital.

Q Okay. But they are not residents as we have used that term so far, they are more qualified than residents?

A No, it would be easier for the purposes of continuing dialogue, since we have used the term fellow for so long, to equate fellow in cardiology with sub specialty resident in cardiology.

Q I am somewhat confused, but perhaps if I could just ask you. The fellow, the one fellow that we have been talking about who is assigned to 4A/B, could that be one of these sub specialty residents?

A He is.

Q Okay, I understand. Or she is.

A Or she is.

Q First of all, I take it that the concerns of the nurses as to the expertise of the fellows was raised in a letter referred to in the first paragraph of Exhibit 138, a letter by two nurse specialist of Cardiac Parents and Patients Support Program. I'm wondering, has that letter been put in evidence?

MS. CRONK: No.



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MS. McINTYRE: Do you have that letter,
Dr. Rowe?

A. I think I do. Is that the
letter dated March the 20th?

Q. Yes, from Miss Carol Peterborough
and Miss Janet Bead.

A. Yes, I have that.

Q. Well, perhaps I can get it from
you and look at it in the break. In any event, they
were very concerned about the expertise of the cardiac
fellows - thank you, I now have a copy - about the
expertise of the cardiac fellows. It says:

"They spoke of the need for support
of relatively inexperienced residents."

THE COMMISSIONER: Well, they are quite
different people, are they not?

THE WITNESS: Paediatric residents are --

THE COMMISSIONER: Are different
animals. I don't know whether you would call them
interns?

THE WITNESS: No, they are residents,
Mr. Commissioner, but they are general paediatric
residents.

THE COMMISSIONER: They are not
specialists?



DD.5

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THE WITNESS: They are not cardiology
sub specialty residents.

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MS. McINTYRE: Q Well, I gather the
point is that the paediatric residents depend on the
fellow for support and advice. Is that the hierarchy
in the ward?

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A. That's generally true, yes.

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Q And it is expected that the
residents would not have a very sophisticated knowledge
in that they are just starting their training, their
specialty training?

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A. It depends a little bit on the
level of the resident. There are three resident years
in gradation and a third year resident might have a
lot of knowledge about the subject, but the first
year resident might not have very much.

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Q Yes. So, at the very beginning
of the program he would not?

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A. No.

Q But I took it the point being
made by the nurses was that the residents were not
getting sufficient support from the fellow in that
problems had arisen over communication with some of
the cardiac sub specialty residents because of
language or medical background problems?



DD.6

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A. Yes, I'm aware of that.

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Q. And you recognize the complaint

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as being a valid one?

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A. Well, we did not agree with

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everything that was said in that letter but I think

7

that the sense of what they were saying was something
we responded to.

8

Q. I take it that there had, as you

9

have set out in this letter, or the memo, it is quite

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a lengthy one, that there had been a decline in the

11

numbers of fellows, sub specialty fellows assigned

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to the Hospital?

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A. Yes. The number of sub

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specialty residents funded by the Hospital was only

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three and we had more than that. We were able to

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fund from other sources but that avenue for financial
support was drying up.

17

Q. That was from the Ontario Heart

18

Foundation?

19

A. Yes.

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Q. And the problem had not been

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addressed since 1974 I take it?

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A. It had been addressed at great

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length but we weren't getting much success with

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addressing it.

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Q. You were not able to get more funding?

A. No.

Q. So, when we come to the period under review, there was a significantly reduced number of fellows?

A. I have the list of fellows here somewhere, if I can just find it.

Q. There were four at that time and I take it that you were recommending the number be increased to eight so that the net effect for 4A/B would be two fellows rather than the one as currently assigned?

A. That was the objective of the letter.

Q. Do you feel that the lack of sufficient numbers of fellows during the period under review had an impact on the care that could be provided to the children?

A. I think that's a difficult question to be sure about. I think that there were at the time two physicians whose experience was quite considerable, but whose mastery of the English language is less than optimal and I think that was part of the difficulty.



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A. They were Dr. Su, S-u, and
Dr. Brant - I'm sorry, Dr. Ning, N-i-n-g.

Q. Well, on the bottom of page 3
where you have suggested that there be two cardiac
fellows for 4A and 4B, you have said, this is the
bottom of the last full paragraph:

" ... establishment would allow one
sub specialty resident to be attached
to each of 4A and 4B throughout the
year, not only would the pace be less
hectic than it now is with one sub
specialty resident for both wards, but
also patient care would benefit
substantially and would be improved
for both paediatric residents and
nurses."

A. Yes, I won't quarrel with that
statement.

Q. And to summarize on page 4 you
have indicated that:

"The strengthening of sub specialty
resident support for 4A and B is one
necessary component of patient care in
that area which is additional to the
need to increase nursing members and



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Dr. Rowe?

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"withdrawal of external funding which has up until now provided cardiac sub specialty resident service for HSC was predicted seven years ago and has been re-emphasized on numerous occasions since. Now the effects of the reduction on patient care are becoming evident."

Can you tell us what you meant by that,

Dr. Rowe?

A. Well, I think that there was a clear indication in the previous year that we were getting into a different population of patients, younger babies, sicker babies, and that that was a considerable stress on all parts of the ward: nursing and physicians.

Q. And when you wrote this letter in April of 1981, you still held that view?

A. Yes.

Q. And you have told us that an extra fellow was added to the service?

A. Yes, we were able to achieve that.

THE COMMISSIONER: Ms. McIntyre, can you tell us where we are going with this line of



DD.10

1
2 cross-examination. You see, my mandate is to
3 determine how and by what means the children died.
4 It is not my mandate to determine whether the
5 Hospital was being run efficiently or not, that was
6 the Dubin Inquiry. I just wondered whether, is it
7 going to be your argument that the failure to have
8 an adequate supply of doctors and nurses was the
9 cause or contributed to the cause of the death of
these children?

10 MS. McINTYRE: That would be our
11 position, Mr. Commissioner. The reason I am raising
12 this is that there has been a suggestion in Dr. Rowe's
13 evidence to date that there was a shortage of nurses
14 and a lack of nursing service particularly on nights
15 contributed to or was a factor contributing to the
16 increase of deaths in the epidemic period and I think
that it is important that ---

17 THE COMMISSIONER: Well, I just want
18 to repeat again that the only theories on the deaths
19 of the children that I have heard so far, and maybe
20 I am wrong and maybe I just have not been listening
21 carefully, are the anatomical or the heart problems,
heart disease and an overdose of digoxin.

22 Now, if you think there are other
23 contributing factors maybe we have to go into that,
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but no one has really seriously suggested that until this line of corss-examination. I am just wondering if you are really serious in pressing it?

MS. McINTYRE: Well, Mr. Commissioner, perhaps I am hearing things slightly different but I had thought that there was a suggestion - there is obviously a number of matters that contributed to problems.

THE COMMISSIONER: Well, you see, the Dubin Inquiry went into all of this and produced a great report on the functioning of the Hospital and one of my instructions are not to repeat that Inquiry and if we go into the administration of the Hospital, whether there were enough doctors, whether the doctors were good enough, whether the nurses were good enough, whether there were enough nurses, then it seems to me that I am duplicating exactly what Mr. Justice Dubin and his Committee did and I don't think that is what I am supposed to do. I am supposed to find out what caused the deaths.

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3 Now, there is certainly no question that
4 if there was a massive overdose of digoxin deliberately
5 applied to these children, it wouldn't have mattered
6 if you had had a million doctors or a million nurses,
7 it wouldn't make the slightest bit of difference.

8 If, on the other hand, the children
9 died of their disease, I suppose it might conceivably,
10 if they had been better cared for, it might
11 conceivably have had some bearing on it, I don't know,
12 but it is pretty remote. It is pretty remote, all the
13 indications so far, and I don't want to express any
14 conclusions, are that there were masses of doctors
15 and nurses available whenever these children needed it,
16 whenever these cardiac arrests occurred there was
17 always a nurse there, noting it immediately, there were
18 always doctors coming in immediately. I don't see any
19 problem so far as that is concerned. You can't trust
20 me now, because I might start seeing things if you put
21 my mind to it, but so far ---

22 MR. STRATHY: Mr. Commissioner, I am
23 sorry to interrupt, but it seems to me that we have
24 seen at least on two occasions in these proceedings,
25 one through-Dr. Gilmour-Bryson presented evidence on
the graphs and statistics that suggests that for some
reason the number of deaths was up during the review



EE2

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2 period.

3 You also have charts and graphs
4 introduced by Counsel for the hospital, again dealing
5 with death rates during the various periods.

6 It seems to me what Ms. McIntyre is
7 doing is at least in some way attempting to explain *why*
8 those levels may have been up during the review period.

9 THE COMMISSIONER: I am asking you, is
10 she trying to explain it by an inadequacy of either
11 nursing or medical care, is that it?

12 MR. STRATHY: I think she is going
13 through some of the factors that the doctor has
14 mentioned and appears evident in the documentation,
15 which may explain it, it may not explain everything
16 but at least it may explain the higher level. But
17 again, it seems to me the question may not be were there
18 enough doctors and nurses around at the time of the
19 arrest, or the Code 25, but were there enough doctors
20 and nurses around during the nighttime, for example,
21 during this period she has listed a number that
22 suggests there may not have been.

23 THE COMMISSIONER: I think it is easiest
24 to ask how long you are going to continue on this line
25 of questioning?

MS. MCINTYRE: I am not going to be



EE3

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2 much longer, Mr. Commissioner.

3 THE COMMISSIONER: Patience is certainly
4 a virtue that commissioners have. I thought it might
5 just be of some assistance to you to know what is
6 going on, what I have described is in my mind.

7 MS. MCINTYRE: Yes, I think that there
8 are a number of factors that were unique to the
9 period under review that may explain the epidemic,
10 other than the -- or in addition to the anatomical
11 difficulties the children were experiencing.

12 THE COMMISSIONER: Well, what I am
13 afraid of is that Mr. Rowland might proceed to go into
14 the whole operation of the hospital to justify that
15 in fact there were enough nurses and enough doctors
16 and the children were cared for properly in the
17 ultimate course, which I think is so remote to this
18 inquiry. However, that is what is worrying me. What
19 I really want to find out is how the 36 babies met
20 their deaths, and that is what I am asked to do. As
21 I say, I have had so far only two serious theories
22 put before me. Maybe you and Mr. Strathy are
23 suggesting another theory, and if you are, I suppose
24 I will have to deal with it, but at the moment I am
25 not impressed by it.

MR. STRATHY: Mr. Commissioner, I don't



EE4

1
2 think anyone is suggesting another theory. All one is
3 suggesting at this point is the reason why there were
4 a greater number of babies meeting their deaths in
5 the review period than in the other period were the
6 factors that my friend has referred to ---

7 THE COMMISSIONER: And among those
8 babies who died were 36 who were under investigation,
9 and you can only conclude from that that the 36 babies
10 died because of lack of care.

11 MR. STRATHY: Or that they had serious
12 medical problems. And one of the reasons why there
13 were more dying in this period is there were more
14 babies sicker, and younger babies ---

15 THE COMMISSIONER: I can understand that,
16 I can well understand that, I have no trouble at all.
17 What is all this inquiry about the nature of the care
18 that they were having?

19 MR. STRATHY: Because a great to-do has
20 been made about the number of babies that died during
21 this period. It seems to me that at the end of the
22 day, one of the questions you have to answer is why
23 were there this number of deaths. My friend is
24 suggesting to you factors that may explain that, at
25 least in part.

THE COMMISSIONER: All right, go ahead.



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MS. McINTYRE: Thank you, Mr. Strathy.
Perhaps this would be an appropriate time for a break.

THE COMMISSIONER: Yes, 15 minutes.

--- Short recess.

--- Upon resuming.

THE COMMISSIONER: Yes, Ms. McIntyre.
I think for the benefit of other Counsel if you can
tell us how long you think you will be, they can rest
easy, or rest funny or whichever ---

MS. McINTYRE: I would predict that I
would be perhaps half an hour.

THE COMMISSIONER: I think that will
rest everybody easy then, because is it now not about
10 to 4:00?

MS. McINTYRE: Yes.

THE COMMISSIONER: Yes, all right.
Thank you. You won't take nearly as long if the
Commissioner would just keep quiet.

MS. McINTYRE: I'm sorry, Mr.
Commissioner, I'm having difficulty hearing you.

THE COMMISSIONER: I'm glad you couldn't
hear that.

MS. McINTYRE: I suspect I know what you
said.

Q. Dr. Rowe, the seventh factor



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that appears in Exhibit 65, as I read it, is at the beginning of the third paragraph and that refers to the medication error made in the arrest procedure.

Now, I take it your took steps to have that cleared up by having large print dosage schedules put on the arrest cart?

A. Yes, that was successful for a period of about a year and a half, I think.

Q. And number eight ---

THE COMMISSIONER: I am sorry, I have lost track, where was that one?

MS. McINTYRE: That is at the beginning of the third paragraph of Exhibit 65.

THE COMMISSIONER: The first page?

MS. McINTYRE: Yes. The error in dosage and administration of drugs at the time of cardiac arrest.

Q. Number eight is at the bottom of page two and refers to re-operating at an earlier stage in certain patients. Where you and Dr. Fowler apparently addressed the need to change some medical/ surgical policies over the need to re-operate. Was there a change made to that effect?

A. Yes. Dr. Trussler, who is the head of the Cardiovascular Surgical Division, addressed



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that question. He instituted a study of a paralysed diaphragm, which is one of the problems that had arisen during that period. He also changed the technique of doing aorticopulmonary shunts and felt this would address those questions.

Q. Do you know when those changes were made?

A. I think they were made very shortly after the meeting.

Q. So that would be towards the end of January, 1981?

A. Yes.

Q. And number nine then appears in the, two paragraphs up from where it says:

"Dr. Trussler examined some of the problems with coping with many of the infant emergency operations necessary in cardiac patients. There have been difficulties over operating room space and he is hoping that the addition of another cardiac surgeon and some increase in operating room availability may resolve the problem of a back-up of seriously ill patients requiring such operations on a relatively emergent



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"basis."

I take it that was felt to be a problem at the time?

A. Yes.

Q. And was there any change made to alleviate that problem?

A. Well, he has hired an additional cardiac surgeon, and he has negotiated time in the operating room, I am not sure how successful that has been.

Q. And do you know when those changes took place?

A. I'm not sure, I think it took some time to find another cardiac surgeon. It is not fairly easy to find surgeons who are prepared to work entirely with children in the cardiovascular field. It took them some time to get that individual, I think it may have taken about a year.

Q. Now, the last page of that Exhibit is a summary of the 20 deaths that were reviewed. Of those 20 deaths, it was felt that one was likely due because of a delay in getting to the OR: a total of seven should have ---

THE COMMISSIONER: We are looking at page 58, is that right?

MS. MCINTYRE: No, Mr. Commissioner,



EE9

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2 I am looking at page 60.

3 THE COMMISSIONER: Oh yes, all right.

4 MS. McINTYRE: It is entitled
5 "Summary".

6 THE COMMISSIONER: Oh, yes, that is,
7 you are quite right, 60, yes, you are quite right.

8 Q. So that was, one death was due
9 to a delay in getting to the OR. A total of seven are
10 indicated as should have had more intensive care
11 either in the Intensive Care Unit or the Intermediate
12 Intensive Care Unit. I am referring to where it says:

13 "Perhaps they should have been in ICU
14 and two, an intermediate ICU."

15 And down below it says:

16 "Four more were 4A/B, but in addition
17 five should have been in the Intensive
18 Care or Intermediate ICU."

19 I am sorry, that is a total of nine.

20 A. I changed those numbers, you
21 may recall, very slightly, when I gave that evidence.

22 Q. Right, okay, and the change was?

23 A. That six died before reaching
24 the operating room, and nine died after they had had
25 surgery.

Q. And there is one suffering



EE10

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from the medical reaction and five represent failure to re-operate earlier. That is a total of 16 out of 20 that are related to the factors enumerated in the memo, is that right?

A. Yes, I think those numbers are 6 out of the 15.

Q. And that would leave only four unaccounted for by those factors.

A. I thought I had 15.

Q. I'm sorry.

A. I thought I had 15 that were in that category and five that weren't.

Q. Five unaccounted for?

A. Yes.

Q. Now, I wish to move on to a different topic.

THE COMMISSIONER: Yes, all right.

Q. And that is the shortage of nursing staff. Dr. Rowe, you testified that you were under the impression that there was a shortage of nursing staff during the period under review and that was particularly at night. I take it that you can't recall from where you got that impression?

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A. Well, I think that was the impression conveyed to me by numerous of the staff cardiologists, I think I have said that we are not very sure of the precise numbers or whether it was all the time, but there was this perception that it was more difficult to fill in with staff when there was sickness and vacation and so on.

Q. I take it you are referring to filling the complement of nurses assigned to the ward as opposed to increasing the complement?

A. Yes.

Q. As well, you felt that the complement should be increased?

A. Well, obviously at nighttime there were fewer nurses on the floor though the complement for the teams was the same.

Q. As I had understood the evidence, the only difference between the day and the night was the head nurse?

A. No, I think it was the head nurse, head nurses.

Q. Two head nurses, one on each unit?

A. Yes, and I am not sure whether a clinical instructor was involved and no



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student nurses.

3

Q. Now, were you aware that

4

there was an increase in the staffing, the nursing

5

staffing when the ward was changed from 5A to 4AB?

6

A. Yes.

7

Q. At that point the night

8

complement of nurses was increased?

9

A. Yes.

10

Q. But you felt it still was not

adequate?

11

A. Not for the increased number

12

we did not think, I mean, that was a matter for

13

consideration, but we felt that was an important

14

issue.

15

Q. I did not see any reference

16

to a shortage of nurses in the discussion of January

17

12th, in the memo that we have just gone through,

other than the question of a nurse-patient ratio?

18

A. Well, of course, as you know,

19

as you can see from the list of people there, we

20

had very senior nurses involved there and I have

21

not got in the minutes anything about the question

22

of nursing shortage, but that issue had to be

23

addressed in the context of the reason for an

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intermediate Intensive Care area.

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Q. I take it the difficulty with respect to the intermediate Intensive Care area was finding not just nurses but nurses who had the sufficient expertise or training to properly perform in that role?

A. That is correct.

Q. I take it that there is a considerable difference among nurses as to their experience and training?

A. Yes.

Q. And that perhaps the shortage was in finding experienced nurses at that time?

A. That may be part of it anyway.

Q. Was that the reservation that the nurses had about the intermediate Intensive Care Unit that you have referred to in your evidence?

A. I think they had reservations about how long it might take to find people for that Care Unit, and I think there were some honest differences of opinion about whether that was the real answer.

Q. Were the nurses not also concerned that they would get patients back from the ICU even sooner than they presently were if they had their own intermediate ICU?



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A. Yes, they were, and in fact we made strenuous efforts to make sure we could satisfy that that would not happen, but that was a concern.

Q. Now, in response to questions from Mr. Scott, Dr. Rowe, you made some observations as to the types of observations that nurses would make on the cardiac unit, and you said that there were a number of observations that nurses were incapable of making that doctors would be able to make?

A. I do not know that I put it as undiplomatically, do you think?

Q. I believe that was the effect of your evidence. I hope I am not misstating it.

I take it, Dr. Rowe, you would agree that an experienced cardiac nurse can make much more sophisticated observations than a brand new nurse can, just like doctors?

A. Oh yes.

Q. And that with special training, nurses can make more detailed observations?

A. Yes.

Q. Do you know if the nurses on



1

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4AB received special training in cardiology?

3

A. They have an orientation,

4

I believe, that is for a period of time, I think

5

several weeks.

6

Q. I take it that there are

7

certain observations that nurses make that a doctor

8

would not make, things like measuring fluid balance?

9

A. Oh yes.

10

Q. And observations about

11

feeding and behaviour such as irritability, that

12

sort of thing, that are a very good indicator of

13

clinical condition?

A. Yes, indeed.

14

Q. But the very important thing

15

about nursing observations is that they are there

16

constantly and can observe changes over time?

17

A. Yes.

18

Q. And that is why nurses in

19

the ICU are in a better position than a nurse on

20

the ward would be in that she has only got one

21

A. Yes.

22

Q. So she can pick up more

23

subtle changes?

24

A. I believe so.

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Q. Dr. Rowe, can you tell us if there is any formal lines of communication between the medical staff and the nursing staff on 4AB?

A. At the time of the period you are talking about?

Q. Yes.

A. I am not sure how formal there was, not to the extent we now have. But do you mean in terms of rounds together and that sort of thing or how we communicate each day or ---

Q. Well, you have testified already that at least a nurse would participate in the rounds that the doctors made daily?

A. Yes.

Q. I take it that would be to note down any changes in orders or anything of that effect?

A. Yes, I think it is an important and necessary communication that we go through everyday and I believe that that happens with not only the cardiologists but with the resident staff as well.

Q. But other than that there was no formal interchange?

A. No, we did not have to my



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knowledge at that time regular meetings. I would meet periodically with the nurse specialists in charge of the patient and parent support program, and I would meet occasionally with the head nurses, I suppose, but I cannot remember on how many occasions. We did not have it on a weekly basis or anything like that.

Q. You stated that the purpose of the September meetings, or at least in part with the nurses was to reassure them that the nursing care they were providing was adequate and was not the problem or not the explanation for the deaths that were occurring?

A. Yes.

Q. Was it the nurses that initiated that conference?

A. My understanding of that, and I have said before that I am not exactly clear which individual did it, but I think it was one of the nurse specialists who conveyed to me the concern that the floor nurses were having about this number of deaths in July, and they were worried that maybe they were not doing all the things that they could have done, and I was upset to hear that because of the fact that we knew those babies had terrible



1
2 disease and that in most cases there was nothing
3 further that could have been done than was being
4 very well done at that time by them.

5 So it seemed very important to meet
6 with them and have the opportunity of going over
7 those patients in more detail from the point of view
8 of the autopsy information and other information
9 that would help clarify that for them.

10 Q. And that is because they
11 would not have a normal route for getting that type
12 of information as to the autopsy results of the
13 clinical condition?

14 A. They might get some information
15 back indirectly, but there had not been up to that
16 time a formal way of doing it, no.

17 Q. I take it that there is such
18 a mechanism now?

19 A. Oh yes.

20 Q. Now, Dr. Rowe, with respect
21 to administration of digoxin, you have indicated to
22 several counsel that it is the nurses that should be
23 asked about administration of digoxin and about the
24 intravenous equipment and so forth. I had understood
25 that while the nurses administered the elixir, it
was the medical staff that administered the



1
2 intravenous doses of digoxin?

3 A. That is correct.

4 MS. MCINTYRE: I have no further
5 questions.

6 THE COMMISSIONER: All right, thank
7 you. Is Miss Cohen here?

8 MS. COHEN: Yes, Mr. Commissioner,
9 I have no questions of this witness.

10 THE COMMISSIONER: You have no
11 questions. I take it Mr. Buhr is not here.

12 MS. JACKMAN: No, Mr. Commissioner,
13 I believe I am next.

14 THE COMMISSIONER: Oh, you are
15 next.

16 MS. JACKMAN: Well, Mr. Buhr is
17 not here.

18 THE COMMISSIONER: So that is
19 the reason why you are next, is it not?

20 MS. JACKMAN: Yes.

21 THE COMMISSIONER: All right.
22 Yes, Miss Jackman.

23 CROSS-EXAMINATION BY MS. JACKMAN:

24 Q. Doctor, I just wanted to
25 cover one area particularly. I am not clear on
arrest, cardiac arrest, and I want to cover with you



1
2 what happens at that time.

3 When there is a cardiac arrest, it
4 is my understanding that the heart stops and at that
5 point the blood circulation would stop as well; is
6 that correct?

7 A. Yes.

8 Q. Is it true that at that time
9 one of the main concerns of a physician doing
10 resuscitation after a cardiac arrest would be
11 ensuring that the blood continues to circulate?

12 A. Yes.

13 Q. And one of the main reasons
14 for that is to avoid brain damage?

15 A. Yes.

16 Q. Is it correct to say that
17 within several minutes of a cardiac arrest the brain
18 could die?

19 A. Yes.

20 Q. And at that point the child
21 becomes -- or the patient I should say, because this
22 would be any patient, would then become clinically
23 dead?

24 A. Yes.

25 Q. It is my understanding that
the reason that the brain dies is that the oxygen is



FF11

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not going in the blood to the brain and that the
death in effect is the death of the cells, the
tissues in the brain?

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A. Yes.

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Q. At that point are you aware

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if there would be a similar process going on in
other organs or other parts of the body?

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A. Yes.

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BmB.jc
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Q. Now, with a child who has had
a cardiac arrest ---

THE COMMISSIONER: Just a second. You
are aware of it, I take it, the answer is there is a
similar process, is that right?

THE WITNESS: Yes.

MS. JACKMAN: Q. And that is a process
that starts almost immediately as soon as the blood
stops flowing, as soon as the oxygen stops flowing to
the cells?

A. Yes.

Q. Okay. Now, once the heart stops,
to a layperson that would mean that the patient is
dead, that would be the understanding? The patient
may not be clinically dead?

A. Well, if you can get the heart
going he's not dead. If you can start the heart again,
if you can start the heart action within a certain
period of time, then ---

Q. But just to an ordinary person
on the street, not a doctor, once the heart stops
they figure the person is dead, right?

THE COMMISSIONER: I'm sorry?

THE WITNESS: I would have to poll.

THE COMMISSIONER: You would have to



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think about that. Well, that's fine. Well, there are certainly a great many people who would agree with you on that.

MS. JACKMAN: Well, that is certainly what I would have thought before this hearing.

Q Doctor, if no measures were taken, once the heart stops death is inevitable if no measures of resuscitation were taken?

A Unless the heart has the good sense to start up on its own again.

Q Right. Is that very likely?

A That sometimes happens.

Q Is it the kind of thing that would happen very often on the ward?

A No.

Q No. All right, Doctor, going a bit further. When a child or a patient goes into bradycardia and ventricular fibrillation, at that point as well it would seem to me that the blood is not circulating normally through the body?

A That is correct.

Q Can there be brain damage or tissue death in that process as well?

A Yes, indeed.

Q Is there any way of measuring



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the extent of the damage if the patient lives?

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A. It is theoretically possible to do that but it is extremely difficult to do in small infants because of the problem of them making an assessment of their situation immediately prior to such an event.

Q Now, Doctor, during cardio-pulmonary resuscitation, it is my understanding that there is some manual pumping of the heart to keep it going?

A. Yes.

Q And that as well a defibrillator is used and the defibrillator does what a person would do manually in pumping the heart?

A. No, the defibrillator is an electrical instrument which shocks the heart, places an electric shock through the heart and then abolishes the ventricular fibrillation so that the heart resumes a normal beat again.

Q Would a defibrillator ever be used before the heart had stopped or only after the heart had stopped?

A. Well, it can be used also to stop very rapid heart actions but the usual - well, I don't know, I would say the usual - it is, in a



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hospital like ours and on our wards, a defibrillator might be used for either of these events; that is a very fast heart rate in a baby who is quite sick with congenital heart disease would be not necessarily the same thing as an arrest but if you didn't work on it pretty quickly it might lead to such.

Q Now, use of the mechanical pumping and the defibrillator and also the drugs, during that resuscitation effort is it fair to say again that the blood is not flowing normally through the heart?

A. Well, it is not normal but it is moving to some extent around the body and through the heart.

Q Are there any time periods, even short ones, for instance, when you switch from manual pumping to a defibrillator there could be several seconds when the heart is not pumping?

A. Well, if you are moving to a defibrillator to treat defibrillation, the heart won't be pumping.

Q So, during that process as well there could be a continuing tissue damage?

A. Yes.

Q So, during that process as well there could be a continuing tissue damage?



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A. Yes.

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Q Okay. Now, Doctor, I just

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want to refer to Justin Cook, to the notes. On page
27 of the notes, the record - I'm sorry, Mr.

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Commissioner, I don't know the exhibit number.

7

THE COMMISSIONER: Exhibit 116.

8

THE WITNESS: Page 27, did you say?

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MS. JACKMAN: Q Page 27.

10

A. Thank you.

11

Q Now, the notes at the bottom,

the set of notes says that the child became cyanosed
at 3:45.

12

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THE COMMISSIONER: I'm sorry, page 27?

14

MS. JACKMAN: At page 27. It is the
very bottom set of notes where the new writing is.

15

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THE COMMISSIONER: Oh, yes, then the
cyanosis went up, something like that?

17

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MS. JACKMAN: Q Now, Doctor, cyanosed
means that there is a problem with the oxygen?

19

A. Yes.

20

Q Right. So that at that point

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with Justin Cook it might not be possible for you to
say exactly, but could it be possible that there might

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already have been the beginning of tissue damage, or

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some effect on cellular activity?

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A. Well, this baby had already
had evidence of low oxygen.

Q. Yes.

A. Was there a previous episode
before that: 3:45? Yes, the baby had an episode
earlier, I think on page 25 of a very, very blue
condition. So that the degree of hypoxia in this
baby or cyanosis had increased at that earlier phase
and it required treatment.

Now, in a short period of time like
that, the ability to assess any damage is minimal.
That is not an uncommon condition in blue babies and
they don't appear to change.

Now, we don't know for sure that there
may not be some effect from that degree of hypoxia
because it is serious, but many babies have those
spells from time to time and it doesn't seem to
affect their brain as far as we can tell.

Q. But it is possible?

A. Oh, yes.

Q. Thank you. Okay, on page 30
I believe and page 29 as well - actually, look at
page 29 first. There is a note three lines up from
the bottom where whoever has made the note states



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that at 4:20 there was an arrest called?

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A. Yes.

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Q. And then again at page 30 I

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believe the notes were made during the CPR efforts.

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It also notes at 4:20 that there was an arrest called

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and at 4:26, 27 and 28 the defibrillator was used?

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A. Yes.

9

Q. Now, is it fair to say at that

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point the child's heart stopped when the arrest was
called?

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A. I will just have to look at the

12

I am sorry, I am just trying to see whether or not

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the heart rate had actually stopped or had just

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slowed down.

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Q. Well, Doctor, I believe earlier

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in the notes, the ones I have referred to on page 27,

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there was some reference to seizures and respirations
laboured.

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A. Yes.

19

Q. And a blood pressure dropping

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at that point and that was prior to 4:20.

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A. Yes. What appeared to be

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going on here was a spell, what we call a blue spell

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and that was followed after treatment was initiated

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with a degree of bradycardia, which I guess became

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worse. I'm not quite sure, I presume that there was an arrest then at the end of that period and at 4:20, as you say, and then presumably there was fibrillation that followed the arrest.

Q So, during that time period, from 3:45 onward, the blood flow to the heart and particularly at 4:20 onward the blood flow from the heart or the pumping of the heart wasn't operating normally?

A. No.

Q So, there could have been tissue damage?

A. Yes.

Q So, Doctor, the last thing that I want to note is on page 57 I believe of the chart. It notes that the digoxin level, on the 22nd of March, was taken at 4:30. So, that would be 10 minutes after the arrest.

A. Yes.

Q Now, the only point I want to make with this, Doctor, is, could you as a physician reading that digoxin level treat that level on the same - how do you say this - the same as if you were viewing a normal child who had not gone into cardiac arrest?

A. Could I treat the level as the same ... ?



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Q. Using the same standards that you would use in evaluating a level for a normal child or a child, even a sick child who hadn't had a cardiac arrest?

A. I'm not quite sure that I have got that question correctly, I'm sorry.

THE COMMISSIONER: I think the idea is, is the child at 4:30, is he dead or alive, that's really what the problem is. I know he wasn't pronounced dead and you didn't stop the resuscitation. Would you consider the child dead - I may be overstating or misstating what you are after but if I understand you correctly you are saying that at 4:30 in fact the child died because he was never revived.

MS. JACKMAN: Well, the point I am trying to make really, Mr. Commissioner, is that at that point if you can't be certain for sure whether there is tissue damage or not, that level may not ---

THE COMMISSIONER: Tissue damage isn't sufficient to kill the child, the brain has to die before you would call a child clinically dead.

THE WITNESS: Yes.

THE COMMISSIONER: But if I can ask a question, it may not be the one you want, if a child goes into a cardiac arrest at 4:20 and he is never



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resuscitated, that is, the heart never starts beating

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again and he is pronounced dead, let us say at

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5 o'clock, what is the hour of death, is it 5 or 4:20?

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THE WITNESS: We usually call it the
hour we stop.

6

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THE COMMISSIONER: The hour you stop?

8

THE WITNESS: Because of the fact that
you are doing some resuscitative ---

9

10

THE COMMISSIONER: Could the brain
be clinically dead before you stop? Could the brain
be destroyed before you stop the resuscitation? You
stop when you think there is no hope of reviving?

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THE WITNESS: Yes. It may not be.

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THE COMMISSIONER: Yes, I see. Well,
there's your answer and it is a maybe.

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MS. JACKMAN: Q. I guess the point I want to make, Doctor, and perhaps I can rephrase it.

A. Yes.

Q. Is if there is tissue damage or if there has been some effect on cellular activity, when you are reading that level it would appear to me that you couldn't read it in the same way as if the child had not suffered some tissue damage.

A. Oh, I see, I am sorry, I didn't quite get your point. Your argument is that, at least, your suggestion is that if you are dying there is release of digoxin from the receptors from the heart or something like that.

Q. Well, I didn't know whether I should be asking you that question directly but I wanted to know what you thought?

A. Well, that I really can't answer because that is a pharmacologist's current concept and I do not think it is a clearly established fact. It may be that that is correct.

Q. And there might be some uncertainty about the level itself?

A. That's right.

MS. JACKMAN: Those are my questions.



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THE COMMISSIONER: Yes. Well, I know you are panting, Mr. Olah, to get going, but I think we will save you until - unless of course you do want to examine, do you?

MR. OLAH: Well, the only question I have at this stage was, there was a letter referred to in Miss McIntyre's examination. You will recall that was a letter from the nurses. I wasn't sure, Mr. Commissioner, whether that had gone in and formed an exhibit and if it hadn't, I thought it may be ---

THE COMMISSIONER: It should be.

MR. OLAH: --- perhaps mark it.



H/DM/ak

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MS. MCINTYRE: I didn't ask that

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it be marked.

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MR. OLAH: Perhaps I can ask that

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it be marked.

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MS. MCINTYRE: I'm not sure where

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it went.

8

MR. ROLAND: Well, Mr. Commissioner,

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it started with me so I might as well introduce it.

10

I don't have enough copies for everybody today.

11

I have given a copy to Commission Counsel and it was referred to I think by the Doctor.

12

Commission Counsel this morning had

13

asked me to look into correspondence that the Doctor

14

had received from nurses subsequent to the January

15

1981 meeting. I think this letter of March 20th,

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1981 is that correspondence. There may be some

17

other correspondence, although I don't think so. So

18

this letter answers both Mr. Olah's concern and I

19

think Commission Counsel's concern as well about the correspondence from the nurses.

20

THE COMMISSIONER: It is a letter

21

from whom to whom?

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MR. ROLAND: It is from Janet Beed

23

and Carol.

24

THE COMMISSIONER: Janet Beed?

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3 MR. ROLAND: Beed, B-e-e-d and
4 Carol P-u-t-h-e-r-b-o-u-g-h to Dr. Fowler and it is
5 a copy to Dr. Rowe and it is dated March the 20th,
6 1981. I will ask that be marked as an exhibit and
perhaps copies can be made available next week.

7 THE COMMISSIONER: Exhibit 155.

8 ---EXHIBIT NO. 155: Letter from Janet Beed and
9 Carol Putherbough to
10 Dr. Fowler, copy to Dr. Rowe,
March 20th, 1981.

11 THE COMMISSIONER: Yes, all right.
12 Is that all you wanted to ask?

13 MR. OLAH: At this juncture, that
14 is all I wanted to ask at this juncture but on
15 Tuesday morning I will have some questions.

16 THE COMMISSIONER: Yes, all right,
17 we will start with you then on Tuesday.

18 Yes, Mr. Lamek?

19 MR. LAMEK: Mr. Commissioner, may
20 I ask this please, and it may assist perhaps too,
21 Dr. Rowe, but counsel ^{who} have yet to ~~be~~ cross-examin^{ing}
22 could they give us an idea of how long they expect
23 ~~us~~ to be?

24 THE COMMISSIONER: Yes. We have
25 of course the re-examination, so the question will
be put to you too as well.



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2 Mr. Olah, how long do you expect to
3 be?

4 MR. OLAH: I do not expect to be
5 very long, perhaps half an hour at the most.

6 THE COMMISSIONER: Mr. Tobias?

7 MR. TOBIAS: I would guess approxi-
8 mately two to two and a half hours.

9 THE COMMISSIONER: And Mr. Shanahan
10 isn't here.

11 MR. STRATHY: I think Mr. Shanahan
12 mentioned he would probably be a day.

13 MR. TOBIAS: Mr. Shanahan himself.

14 MR. STRATHY: I'm sorry,
15 Mr. Shinehoft, excuse me, Mr. Commissioner.

16 MR. TOBIAS: Mr. Shanahan intends
17 to be very brief.

18 THE COMMISSIONER: Mr. Shinehoft
19 you think might be a day?

20 MR. TOBIAS: He suggested he might
21 be about 50 minutes, Mr. Shanahan that is.
22 Mr. Shinehoft I think has indicated perhaps a full
23 day.

24 THE COMMISSIONER: Then on
25 re-examination I suppose, well, you don't know yet,
but I take it there will be some re-examination,



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will there, Mr. Roland?

MR. ROLAND: I expect so.

THE COMMISSIONER: Well, the ^{original} audio
will be over perhaps not on Tuesday, Dr. Rowe.

MR. STRATHY: Although we are at
the end of the day, I wonder if some time next week
Mr. Lamek could perhaps help us on quo vadis, or
quo vadamus, whatever the appropriate phraseology
will be in terms of witnesses and what his plans
are.

MR. LAMEK: Certainly for the
immediate future, I don't necessarily mean next
week, but following Dr. Rowe I intend to call
Dr. Freedom, and following Dr. Freedom, Dr. Fowler
from the Hospital. I would expect after that to be
calling other members of the Hospital medical staff
but I can provide you perhaps with a more detailed
list at the beginning of the week, sir.

THE COMMISSIONER: Yes, thank you.
Well, until Tuesday at 10 o'clock.

---Whereupon the hearing adjourned until Tuesday,
August 29th, 1983 at 10:00 a.m.

